

THE BRICKBUILDER

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THE BRICKBUILDER.

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Advertisements will be printed on cover pages only.

THE problem of providing schoolhouse accommodation for the children of a large city is a serious one, the best solution of which has received most careful consideration from different parts of the country. In Boston up to a short time since the schoolhouses were all designed by the city architect. During the period in which Mr. E. M. Wheelwright held this position, some most excellent results were accomplished, and the buildings which he designed were in many respects models of their kind. A political upheaval abolished the city architect's office, since which time there has been a great lack of uniformity in the schools of Boston, the various buildings being designed without much reference to each other or to carefully preconceived programs. In 1901, however, a radical change was made and the whole matter of schoolhouse construction, maintenance and repair was placed in the hands of a commission composed originally of three laymen, but modified at an early date by the resignation of one member and the appointment in his stead of Mr. R. Clipston Sturgis, who has acted as chairman of the commission and to whose incentive is due the excellent results which have been accomplished. The first report of the commission has just been made public.

This report shows that the problems have been studied in a most careful, conscientious manner, and that out of the mass of data which the commission has collected, both in Boston and from personal investigations in all the principal cities of the country, a perfectly clear, comprehensive and well-studied general plan has been evolved, in accordance with which all of the more recent schoolhouses are being constructed. The report contains a mass of extremely valuable general information which serves as a basis for all the new schoolhouse work and which can be studied to great advantage by any one interested in such work. The report also contains illustrations of the principal buildings which have been planned by architects under the direction of the commission. The appointment of architects rests entirely in the hands of the commission, who have exercised their discretion entirely in the interests of the city, selecting in every case architects whose work has been a credit to the community and to themselves, and making such selection entirely on the merit of the individual and his record rather than upon the result of any more or less haphazard competition. The commission has, furthermore, employed experts to advise with them and take charge of all heating and ventilation and all electric work in both new and old work, thus insuring a high degree of efficiency in these most essential features of schoolhouse construction. The city is certainly to be congratulated upon having on the commission a thoroughly trained architect like Mr. Sturgis, who is willing to give so much time and serious thought to such problems, and the work of the commission certainly deserves the encouragement and support of every one who is interested, not merely in schoolhouse construction, but in good architecture as well.

ROTCH TRAVELING SCHOLARSHIP.

THE annual competition for the Rotch Traveling Scholarship has resulted in the choice of Mr. Edward T. Foulkes to hold the scholarship for the ensuing two years. Mr. Foulkes is a westerner by birth. He graduated with honor at the Institute of Technology in 1898, and has had a long and thorough training in the offices of C. H. Blackall, Boston, and Cass Gilbert and Carrère & Hastings, New York. He last year won the gold medal of the Beaux Arts Society, and his work in the competition is of a most satisfactory character. He will be the twentieth holder of this excellent scholarship. The second prize, offered by the Boston Society of Architects, goes this year to Mr. H. S. Pitts, from the office of Wheelwright & Haven.

The Planning of Hospitals.

BY ERNEST FLAGG.

BEFORE attempting to plan a hospital, the architect should, of course, make himself familiar with what are now thought to be the best conditions for the recovery of the sick and to work into his plan as many of these conditions as he can. At the outset he will find that one prime condition, viz., isolation from unfavorable surroundings, cannot be attained. The hospital system itself, or the bringing together of many sick people into a confined area, is not conducive to recovery, and is moreover fraught with many dangers. The whole theory of hospital construction, planning and management, so far as the sanitation is concerned, is based on the knowledge of this fact. Hospitals are planned, built and operated with a view to overcoming, as far as may be, the evils inherent in the system. These evils can only be overcome, if at all, by the most painstaking care in the construction and arrangement of the hospital, and by eternal vigilance in its management. The architect's part in the war which must constantly be waged against contamination and infection is most important. Upon the judicious distribution of the plan, the proper arrangement of the ventilating system, the skillful selection and use of antiseptic substances for the interior, and the avoidance of all places where dust and dirt can lodge, must depend to

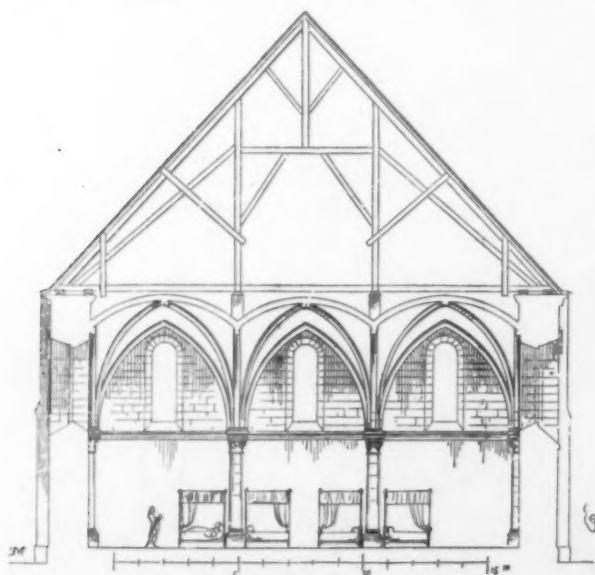


FIG. 2. SECTION OF HOSPITAL AT ANGERS.

a great extent the healthfulness of the institution. It is therefore absolutely necessary that the planner should understand the dangers which he is to help combat, and how they can best be overcome.

Modern discoveries in bacteriology have shed a great light on this subject. We now know that most diseases

are transmitted by living germs, which can be destroyed by aseptic treatment, or rendered less harmful by dissemination, as when they are scattered or carried off by a large volume of pure air. These germs are transmitted from one person or thing to another by means of air, water and insects, as well as by direct contact with contaminated instruments, clothing, or other substances. The dangers which lurk in the hospital system are admirably set forth by Parkes in his work on Practical Hygiene as follows:

"Although the establishment of hospitals is a necessity, and marks the era of an advanced civilization, it must always be remembered that if the crowding of healthy men has its danger, the bringing together of many sick persons within a confined area is far more perilous. The risks of contamination of the air, and of impregnation of the materials of the building with morbid substances, are so greatly increased, that the greatest care is necessary that hospitals shall not become pesthouses, and do more harm than good. We must always remember, indeed, that a number of sick persons are merely brought together in order that medical attend-

ance and nursing may be more easily and perfectly performed. The risks of aggregation are encountered for this reason; otherwise it would be far better that sick persons should be separately treated, and that there should be no chance that the rapidly changing, and in many instances putrefying substances of one sick body should pass into the bodies of the neighboring patients. There is, indeed, a continual sacrifice of life from diseases caught in or aggravated by hospitals. The many advantages of hospitals more than counterbalance this sacrifice, but it should be the first object to lessen the chance of injury to the utmost. The risk of transference or aggravation of disease is least in the best ventilated hospitals. A

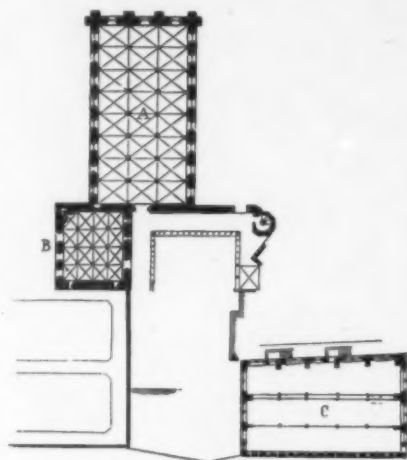


FIG. 1. PLAN OF HOSPITAL AT ANGERS.

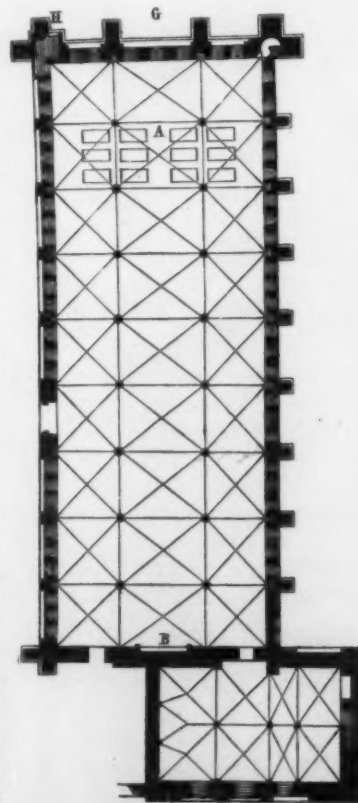


FIG. 3. PLAN OF HOSPITAL AT OURSCAMP.

great supply of air, by immediately diluting and rapidly carrying away the morbid substances evolved in such quantities from the bodies and excretions of the sick, reduces the risk to its minimum, and perhaps removes it altogether."

Formerly it was the custom to build hospitals in single blocks, often of great size, where vitiated air from one part could circulate into and contaminate the air of other

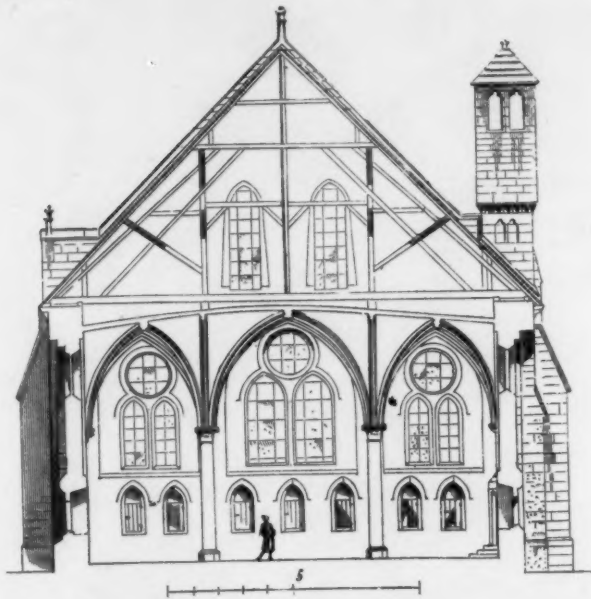


FIG. 4. SECTION OF HOSPITAL AT OURSCAMP.

parts, and where, from the very nature of things, there could not be that abundance of air and sunlight which it is now thought so necessary to have. At present the approved plan is to scatter the sick over as great an area as possible, by separating the institution into a number of small detached or semi-detached pavilions, arranged to permit of the freest play of air and sunlight on all sides of and around them, and so contrived that any part or number of parts may be readily cut off and isolated from the rest in case of the outbreak of contagious diseases. The modern hospital is therefore a very complicated affair, calling for much ingenuity and judgment in its arrangement. For the planner, while complying with all the sanitary requirements, must also have due regard to economy of construction, of management and in the use of the land. He must reduce the distances to a minimum, he must arrange the various parts conveniently with respect to one another, so that the institution may be operated smoothly and economically, and at the same time he should pay due attention to the design. It is the habit of many to pass lightly over the latter consideration, holding that the other requisites are of such paramount importance that the æsthetic side may, and perhaps ought to be, disregarded. But this most certainly should not be the attitude of the architect. The love of and care for the beautiful need never be abandoned or neglected for any other consideration; it is compatible with all and need conflict with none. In no place is beauty of design and cheerfulness of aspect more desirable than in a hospital. The properly planned hospital is one that is satis-

factory to every one of the interests enumerated, that is to say, wholesome, economical and beautiful.

The ward system is by no means a pleasant one to contemplate. The placing of a number of sick people in a single room is not the happiest arrangement that can be imagined. There is a lack of privacy revolting to the sensitive mind, and no little discomfort for all concerned. The system can only be defended on the ground of necessity, for as compared with separate treatment the suffering is increased, and recovery is often retarded, even if new disease is not contracted. There is, indeed, nothing to recommend it but economy. In this connection it is rather disconcerting to observe the arrangement of the wards of many hospitals of the Middle Ages; the study of some of these might well force upon one the conviction that the progress of the last few centuries in this branch, at least, has been in a retrograde direction. The ample proportions, the excellent lighting and the

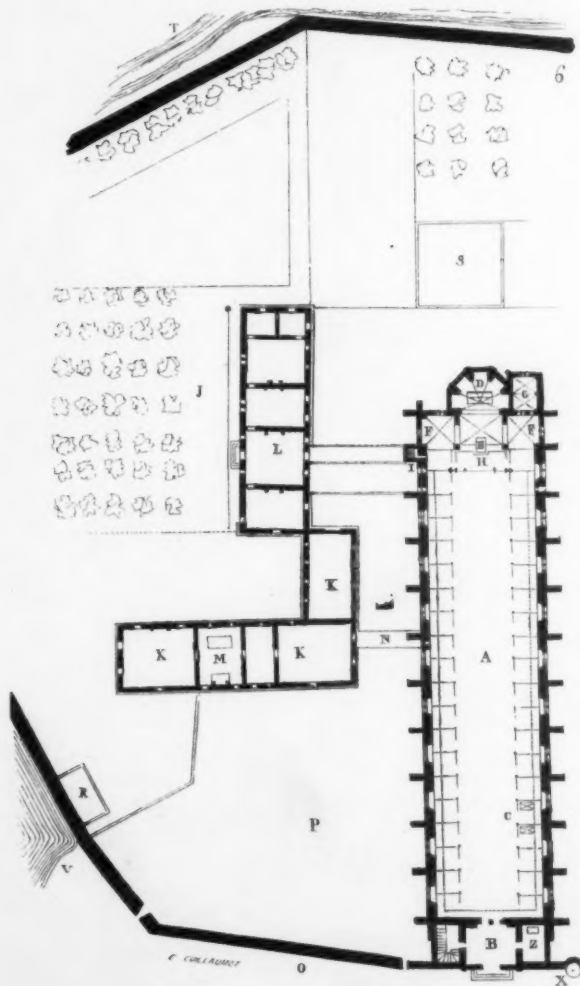


FIG. 5. PLAN OF HOSPITAL AT TONNERRE.

arrangements for the privacy and for the comfort of the patients in these beautiful halls, when compared with even the best of our modern hospitals, are so striking in their perfection that one is forced to ask himself, where is the boasted progress of these later days? France still possesses several fine examples of her mediæval hospitals. Those of Chartres, Angers, Soissons,

Beaune and Tonnerre are alike remarkable for the beauty of their architecture and the sanitary excellence of their plans. Figures 1 and 2 represent respectively the plan and section of the hospital at Angers; Figures 3 and 4, the plan and section of the one at Ourscamp; Figures 5 and 6, the plan and section of the hospital at Tonnerre, all from Viollet le Duc.

The hospital at Tonnerre deserves especial attention. The great hall, or ward, is about 60 feet wide by 270 feet long, exclusive of the sanctuary. It is intended for only forty beds. Each patient has his own private compartment, as shown in the perspective view (Figure 7). A balcony running along the wall at the level of the sills of the great windows serves as a gallery of observation, from which the patients in the compartments can be seen without disturbing them, and also as a screen to intercept the light and to keep the glare from their eyes. The enormous cube of 16,000 cubic feet is supplied for each patient. Moreover, the space between the inner and outer covering of the roof is pierced by numerous apertures to facilitate ventilation.

Many different types of ward have been suggested and are in general use in modern hospitals. The most com-

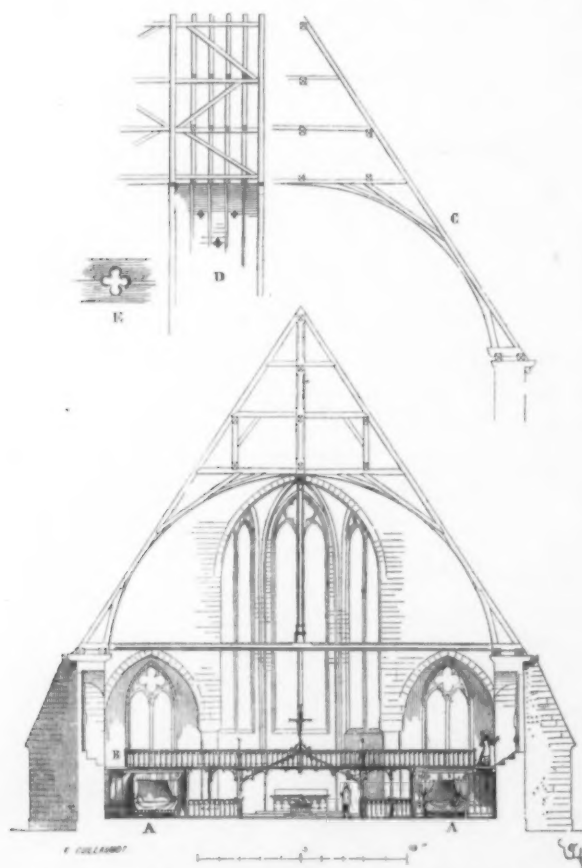


FIG. 6. SECTION OF HOSPITAL AT TONNERRE.

mon of these is the oblong rectangular room with two rows of beds. It is from twenty-five to thirty feet wide and has windows along both sides and sometimes at one end. The beds are at right angles to the longitudinal walls and are placed either singly or in pairs between the windows; their heads are from eighteen inches to two feet from the walls.

The ward dependencies, consisting of the necessary toilet rooms and latrines, the nurses' room and the doctor's room are either at one end near the entrance or else distributed so that the rooms containing the plumbing fixtures are at the far end. The nurses' room is sometimes

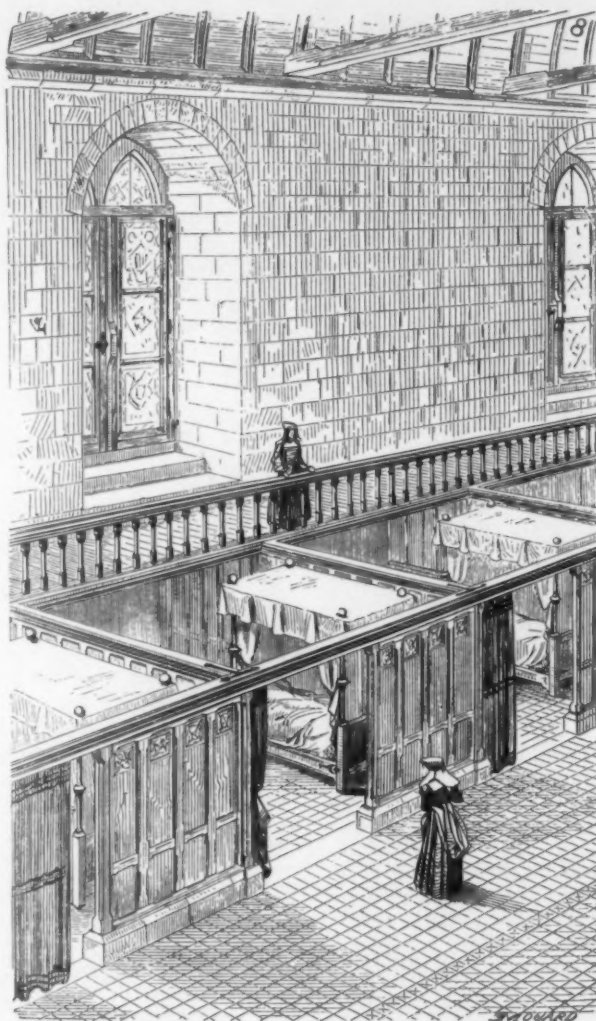


FIG. 7. WARD, HOSPITAL AT TONNERRE.

fitted up as a diet kitchen, and the doctor's room may contain a bed for any patient which by his condition might disturb the others if left in the ward. Sometimes the dependencies are more numerous, and besides the rooms mentioned the ward may have attached to it a ward dining room, a day room, a room for two beds for special cases, a serving room, etc. Figures 8, 9 and 10 show types of plan for wards of this kind.

Some writers recommend round or octagonal wards, but they are not much used; such wards can only hold a limited number of beds, as their area increases in a much greater ratio than their perimeter when the circle is enlarged, and circular buildings are expensive to build. No matter what the form or arrangement of the ward may be, all authorities seem to agree on two points: first, that there should be the greatest practicable area for each patient; and second, that the head of his bed should be close to a window. The minimum area generally pre-

scribed is 100 square feet, or 1,200 cubic feet, but many think it should be much more. One of the best French authorities prescribes 45 cubic meters for each ordinary patient and 67 cubic meters for each surgical or fever patient. In hot climates the cube should be greater. In

more economical as regards construction and administration. If the beds are placed in four rows, the ward need be only one-half as long for a given number of patients as if there are but two rows, and it will therefore cost a good deal less to build. The distances will be only one-

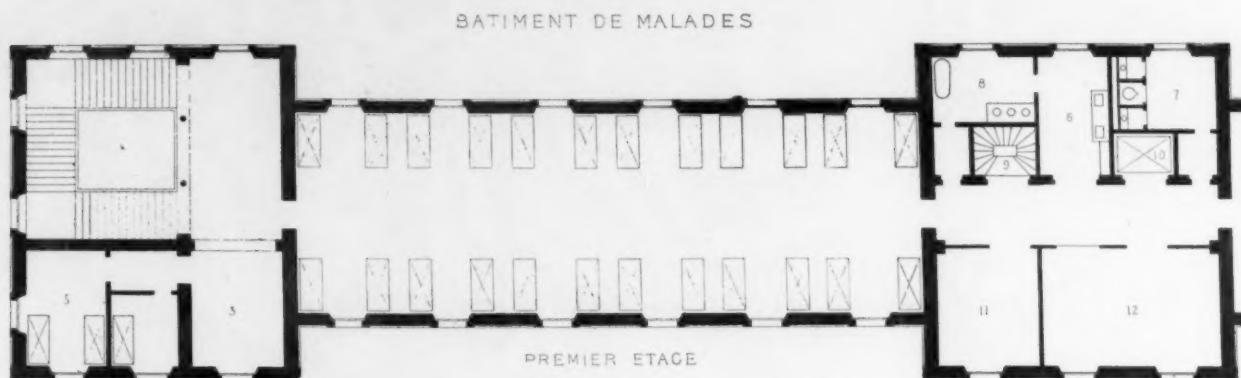


FIG. 8.

Italy they give ordinarily 75 cubic meters per bed and sometimes as much as 100 cubic meters. Some authorities maintain that the cubic space allowed for each patient should be more in wards containing a large number of beds than in those having a less number. Thus, if 45 cubic meters per patient are allowed in a ward of ten beds, 55 cubic meters per patient should be allowed in a ward containing twenty beds, and so on. The argument is logical, for the greater the number of patients the greater the risk of contamination. It is undoubtedly true that there cannot be too great an allowance of air space, but just why the beds should be arranged as they are in wards the world over it is not so easy to see. Whatever virtue there may be in placing the heads of the beds of a ward close to and between windows, where the patient is exposed to every current of air and where the glare from the opposite windows of the ward is directly in his eyes, it is certain that the same reasons do not hold good in the estimation of physicians for the sick in their own homes or even for patients in the private rooms of a hospital.

Here again it seems to the writer that the mediæval arrangement of the ward as shown in Figures 2 and 3 is better both for the patient's health and comfort and also

half as great for the nurses and attendants, and there will be a further economy in its care, as the cost of both cleaning and heating will be reduced by almost a third. Being wider, the patients will not be so much annoyed by the light from the windows on the op-

posite side of the ward, and at least one-half of them will be so placed as to be less exposed to danger from draughts about the windows. If there are serious objections to this kind of ward, the writer has been unable to learn what they are. Many physicians with whom the matter has been discussed have agreed in thinking the arrangement better than the one in common use, both as regards the patient's health and comfort. There is a ward pavilion of the sort attached to the Naval Hospital at Brooklyn, N. Y., which gives excellent satisfaction, and it is the intention of the Department to build more like it. When such wide wards are used, their ceilings may be somewhat higher than

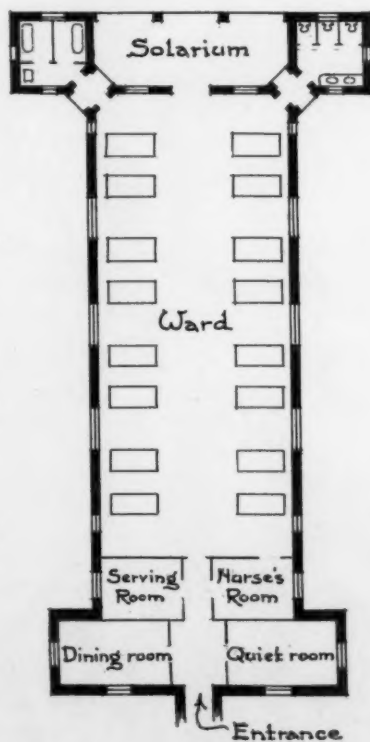


FIG. 9.

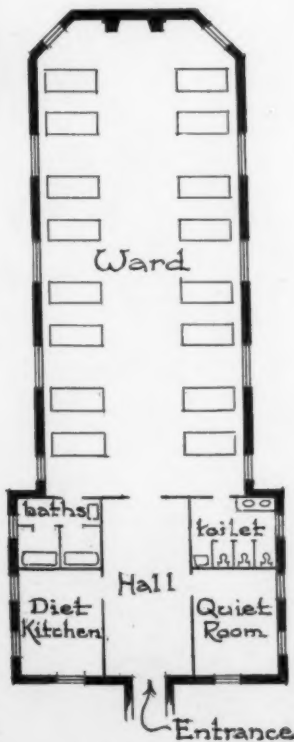


FIG. 10.

those of wards for only two rows of beds. The latter are usually 12 feet high; wards for four rows of beds might, with advantage, be 16 to 18 feet high. The cubic space above the tops of the windows is not usually thought to be of much value, therefore the windows are generally carried very near the ceilings. In nar-

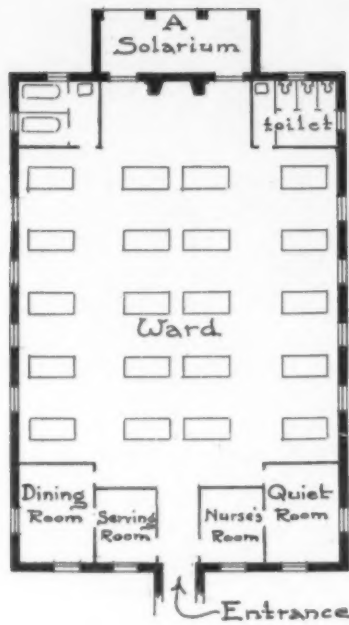


FIG. 11.

row wards the higher the windows the more the light from them annoys the patients, because it brings it more directly within the range of vision of one lying in a bed at the opposite side of the room, but in wide wards the windows may be higher without this inconvenience. The extra cubic space obtained by raising the ceiling would cost comparatively little and might be used to increase the cubic space allowed for each patient, or to expect an economy by slightly reducing the floor area per bed, while

retaining the desired cubic area.

Beside these advantages of utility and economy the wide ward lends itself better to a successful architectural treatment, for with such wards the dependencies need not be wider than the ward, and project in the awkward way they do in most wards of two rows of beds. Figure 11 represents a ward of this sort for twenty beds, and Figure 12 a ward of the ordinary kind for the same number of beds in two rows. In both these wards the floor area is the same per bed. The dependencies are of equal size in both plans, yet the number of running feet of exterior wall re-

quired by the plan Figure 11 is twenty-five per cent less than the other plan calls for.

A very desirable adjunct of all wards is the sheltered loggia or piazza marked "A" in both of these plans. If the ends of the wards have an exposure to the south, southeast or southwest, so that the place can be warmed by the sun, and protected on three sides against northerly winds, it is sure to be a great boon to the patients, who naturally seek every opportunity, when able to do so, to escape from the depressing atmosphere of the ward.

There is no doubt that where the conditions will permit, the ward pavilion should not be more than a single story high. If the wards are placed over each other, there is danger that vitiated air from a lower ward will find entrance into one above. If by no other means, the staircase will serve as a duct, but few buildings are built which will not permit of the circulation of air through the floor. Though wards of one story are more costly for the accommodation provided than those of two stories, there are several compensating advantages besides that of their superior healthfulness. The abolition of the staircase and elevator is an economy both on account of their cost and the space they occupy. And the saving in labor and consequent cost of administration is considerable if all the parts are on the same level, and if food and the patients can be wheeled directly from one part to

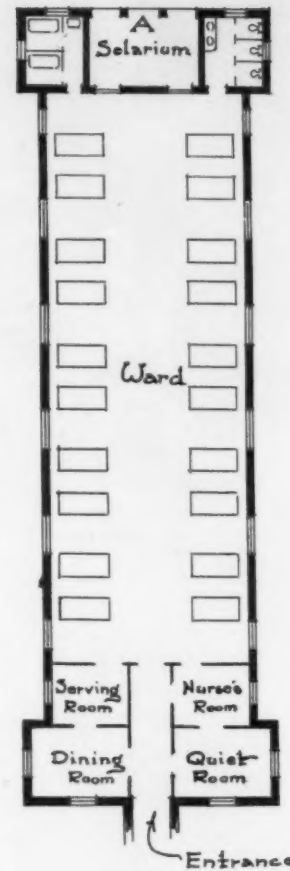


FIG. 12.

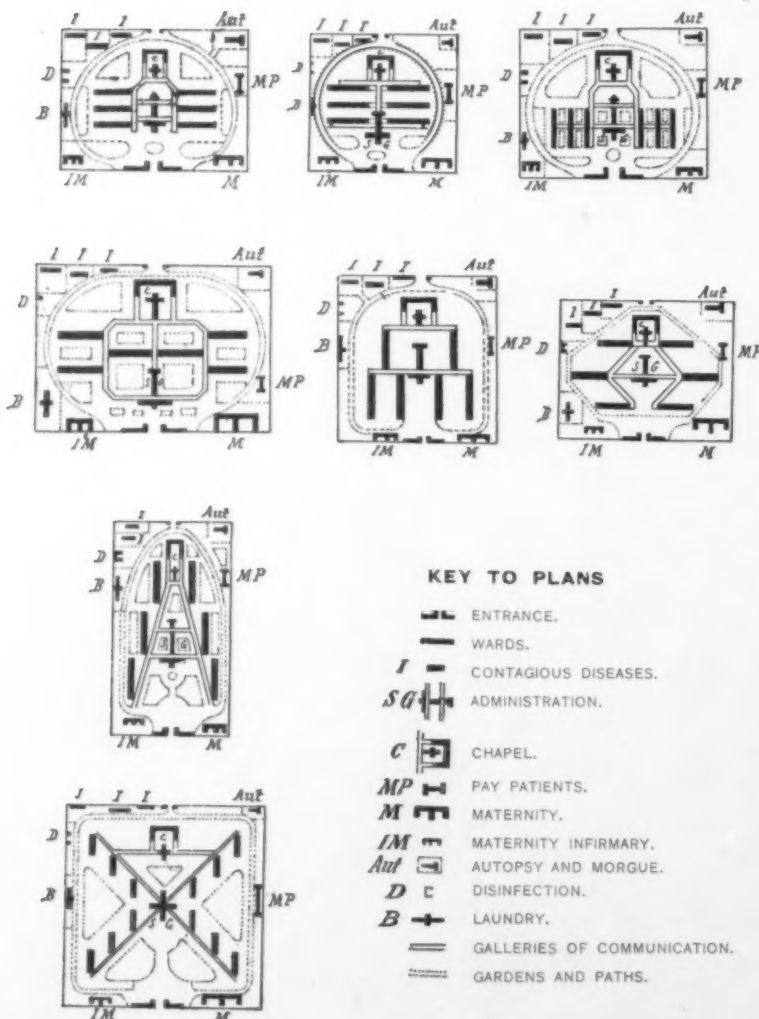


FIG. 13.

another without change of grade. These advantages probably fully offset the saving in foundation and roof which is effected by placing one ward over another.

To obtain an abundance of cheap land, hospitals should, when practicable, be located in the suburbs of

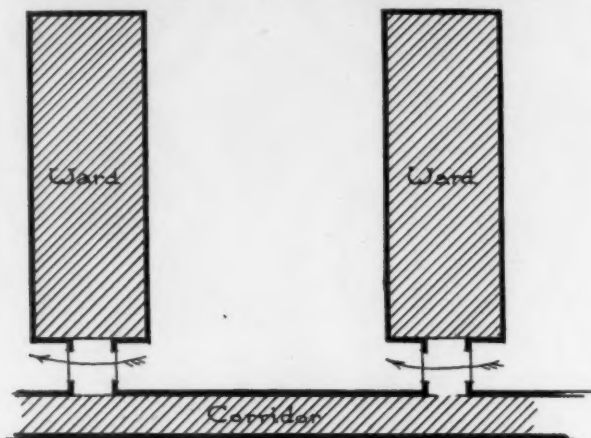


FIG. 14.

cities, where the wards can not only be spread over a sufficient area, but where there may be fairly extensive grounds about the buildings for the use of the patients. In such places the architect has only to choose a happy mean between too great separation and too great concentration of the parts, that is, a separation sufficient to meet the hygienic requirements for air and sunlight without overstepping the bounds of economy in administration by too great a lengthening of distances. If the distances are too great, there will be a loss of labor and consequent increase of expense. Many different methods of arrangement for the pavilions have been tried and suggested. Figure 13 shows some ingenious ones by M. Tollet, a French writer on the subject.

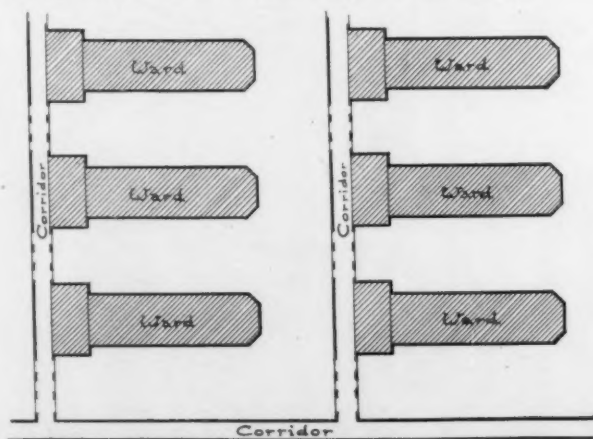


FIG. 15.

The ward pavilions are separated to accomplish two distinct objects: first, to secure light and air around them; second, to prevent the mixing of the air of one ward with that of another. In order to accomplish the latter object, means must be taken to prevent the passageways from acting as circulating ducts through which the air can pass from one part to another. There are three ways to do this: first, to break the corridor at intervals with what may be called "fresh air cut-offs,"

or places open on at least one side to the outer air; second, to leave the corridors themselves open on one or both sides, which is impracticable in a cold climate; third, to separate the buildings from the corridor by open vestibules, as shown in Figure 14. These vestibules can be arranged so that the window on the leeward side remains open automatically. Some time ago the writer visited a hospital celebrated for the supposed excellence of its hygienic arrangement. The various pavilions were not really separated from each other at all. To be sure there were long enclosed ways, but the atmosphere was the same throughout; the passages served no other purpose than a means of communication, for the circulation of air was nowhere interrupted. They had cost a great deal to build, and must have been expen-

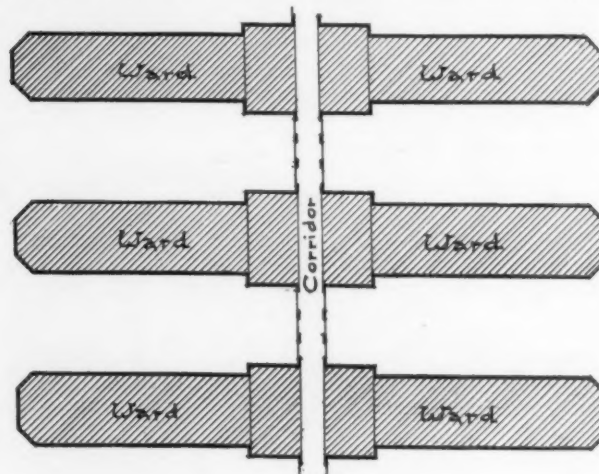


FIG. 16.

sive to heat. The ventilating system was also costly and inefficient, for everywhere there was the same unpleasant hospital odor. At only one place was there relief, — one building had not yet been connected up to the general system of communication, and it was necessary to step out of doors to reach it. The distance was only three or four feet. I shall never forget that one breath of fresh air. It occurred to me then, how much better and more effective was a break of this kind for the purpose of separation than any length of enclosed corridor.

One often sees an almost brutal disregard of beauty and symmetry in the plans of hospitals. Wards are frequently arranged as shown in Figure 15. This kind of plan is apt to appeal strongly to the board of managers or the building committee. They see that the arrangement is ugly. Evidently the architect has not let his æsthetic tendencies lead him astray; he has sacrificed symmetry and order to more solid considerations of a practical kind, for the wards are apparently arranged solely to procure for them the best exposure. If a plan is ugly, however, it is pretty sure to have other defects which a little study will disclose. If these same wards were arranged, for instance, as shown in Figure 16, they would continue to have every advantage which could be claimed for the other arrangement, for the sides of those on the left of the axis would have precisely the same exposure as those on the right of it, and the length of the corridors would be reduced by one-half.

(To be continued.)

Interesting Brick and Terra-Cotta Architecture in St. Louis. III.

COMMERCIAL, INSTITUTIONAL, ETC.

BY S. L. SHERER.

IT is only in the past ten years that the use of brick, other than red, has become a factor in building in St. Louis; and while its riotous use by speculative builders has been distressing, the more intelligent use of it by architects has added variety of color to design and has served to preserve the streets from the monotonous appearance that unintelligent use of red brick alone gives.

The Judge & Dolph building, by R. M. Milligan, is a pleasing example of the use of a mottled Roman brick and terra-cotta of the same color. The central grouping of the windows is a clever feature and affords a maximum



BUILDING FOR ST. LOUIS DAIRY CO.
W. A. Swasey, Architect.

amount of light without robbing the end piers of sufficient width to give that air of stability which every building should possess.

The use of terra-cotta for entire façades has not been extensive in St. Louis, but in the Lindell Real Estate building, Mauran, Russell & Garden have used a semi-glazed terra-cotta of a grayish color. St. Louis is fortunate in possessing many commercial warehouses that will rank with the best work of the kind elsewhere, but none of them excel this building in fitness and beauty of design. Where ample light is a desideratum, piers must necessarily be reduced to a minimum, generally to the detriment of architectural appearance. Here this objectionable feature has been minimized by the deep reveal of the terra-cotta architraves, which gives the building an appearance of stability, instead of the veneered look that usually accompanies a less intelligent use of that material.

In this age of commercial dominance it is seldom that



STUDIO BUILDING.
Eames & Young, Architects.

an architect is permitted to design a store building in which commercial necessities do not override architectural beauty. That the beauty and the necessities can be happily combined is demonstrated in the Knox building, by Mauran, Russell & Garden. Here a picturesqueness, in a well-controlled way, has resulted from the use of gables, seldom met with in modern commercial structures, and a building has been created which is a welcome departure from the usual type. The brick is dark mottled, a color that weathers best in the St. Louis atmosphere.

No mention has been made of the Cupples system of brick warehouses by Eames & Young, as they have been fully described in a previous number of this journal, but the Cupples office building, that seems lost between its



MISSOURI MEDICAL COLLEGE AND COLLEGE OF DENTISTRY.
Eames & Young, Architects.



KINLOCH TELEPHONE BUILDING
Isaac S. Taylor, Architect.



BELL TELEPHONE BRANCH BUILDING.
Eames & Young, Architects.



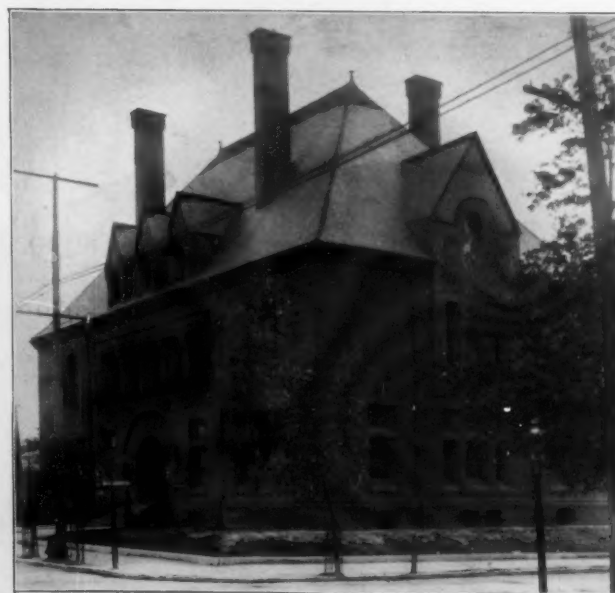
BRANCH BUILDING, METROPOLITAN LIFE INSURANCE CO.
N. LeBrun & Sons, Architects.



ARMORY.
W. M. and L. C. Buckley, Architects.



CHRISTIAN SCIENCE CHURCH.
T. C. Link, Architect.



ST. LOUIS CLUB (OLD BUILDING).
Peabody & Stearns, Architects.

huge, neighbors, deserves illustration because of its architectural beauty. The façade is encased in dark brown terra-cotta and possesses a refinement that is in interesting contrast to its surroundings.

By the same architects the Chapman building, lately converted to the uses of the *Post-Dispatch*, is one of the most successful buildings of its class, and exhibits individuality in design and a refined use of buff terra-cotta of attractive detail, in the upper story and frieze. The deep reveals enhance the appearance of strength and add immeasurably to the character of the design.

Although Washington Avenue is lined with structures of the same general type and devoted to like purposes, mention can be made of a few of the buildings that are making it one of the monumental streets of the country.

The Boyle building, by Shepley, Rutan & Coolidge and J. Lawrence Mauran, exhibits extensive use of terra-cotta for the embellishment of the façade. The red brick in combination with the buff terra-cotta affords a pleasing contrast of color.

The most pretentious of recent examples is the Ferguson-McKinney building, by Eames & Young. The design is a variation of the usual treatment in the increased number of stringcourses and the somewhat unusual



DODDS SANITARIUM.
M. P. McArdle, Architect.



LINDELL REAL ESTATE COMPANY BUILDING.
Mauran, Russell & Garden, Architects.

handling of the large consols supporting the cornice. The admirable treatment of the corners gives an appearance of support to the superstructure, and coherence to the design of the first story. The brick is brown with terra-cotta trimmings of a much darker shade, — a color that weathers well in our smoky atmosphere, but one that does not lend itself so well to the best expression of detail.

Weber & Groves building, for the Norvell-Shapleigh Hardware Company, differs from the usual warehouse type in that the light area does not seem to have dominated the design above the first story, with the result that a more massive appearance fittingly characterizes the structure. The white terra-cotta sill courses accentuate the horizontal instead of the vertical treatment used in the other buildings.

The Newcomb building, by Shepley, Rutan & Coolidge, recalls the influence of the great Richardson, and although erected many years ago it retains its interest as one of the best examples of all brick design in the city; brick being used for ornamentation in a way that tests but does not exceed the limitations of the material.

It augurs well for architecture when buildings are erected by business firms who recognize the importance of associating their name with buildings of individual character. Special purposes impart an individuality to a building which is necessarily absent when it is planned to meet any one of a dozen requirements.

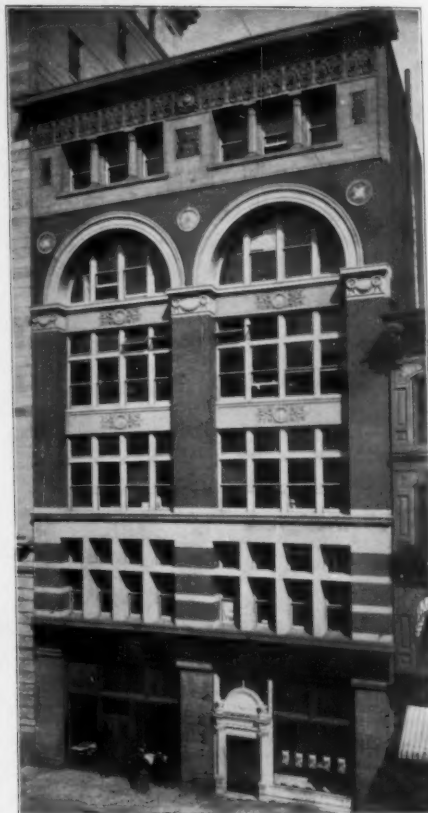
This result has been realized by the St. Louis Dairy Company, for whom W. Albert Swasey has designed a picturesque building whose style recalls the half-timbered buildings in the South of France. The openings have been accentuated by the use of a Roman brick of a much darker color than the wall, but springing the entrance arches directly from the pavement line mars what is otherwise an exceedingly interesting design. The brown tile roof, long and low, with gables and dormers well sub-



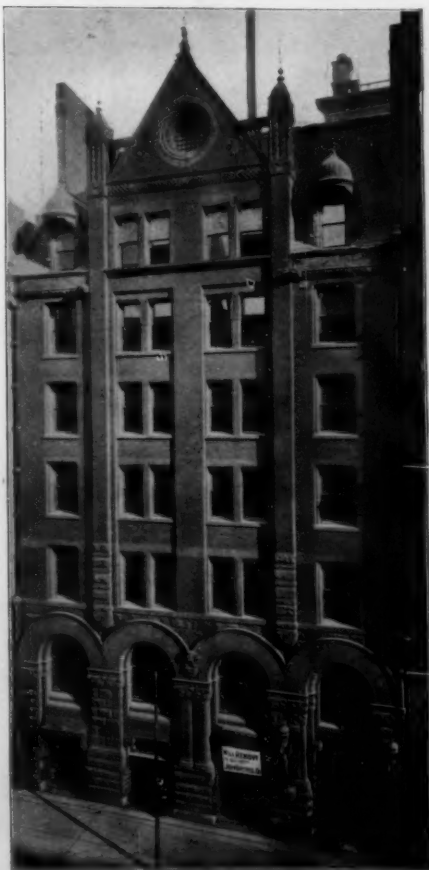
BOYLE BUILDING.
Shepley, Rutan & Coolidge, Architects.



CUPPLES OFFICE BUILDING.
Eames & Young, Architects.



POST-DISPATCH BUILDING.
Eames & Young, Architects.



TURNER BUILDING.
Peabody & Stearns, Architects.



SCHUYLER MEMORIAL HOUSE.
Shepley, Rutan & Coolidge, Architects.
BRICKWORK IN ST. LOUIS, MO.



JUDGE & DOLPH BUILDING.
R. M. Milligan, Architect.



FERGUSON-MCKINNEY BUILDING.
Eames & Young, Architects.

ordinated, adds a picturesque note seldom seen in commercial buildings.

A like result was attained by the owners in the erection of the Studio building by Eames & Young. The upper floors are devoted to studios for artists, and this purpose is fittingly suggested by the design of the detail of the terra-cotta panels and architraves that frame the windows. If such beautiful buildings were more numerous the streets would have the same interest as art galleries, for they not only make for education, but for a well-ordered city as well.

The value of this idea has also received recognition



NEWCOMB BUILDING.
Shepley, Rutan & Coolidge, Architects.

in the building of the Metropolitan Life Insurance Company, by N. LeBrun & Sons of New York, which exhibits their interpretation of the Colonial style, and employed by them in the numerous buildings erected in various cities for the same company.

It is fitting that this article should make some mention of the Turner building, erected many years ago by Peabody & Stearns. The first of our modern fireproof office buildings, its beauty has not saved it from falling a victim to the inexorable demand for light. It is unfortunate that so beautiful and interesting a structure should disappear from view, for the educational influence of such a monument is beyond computation in money.

While St. Louis possesses numerous institutions de-



NORVEL-SHAPLEIGH BUILDING.
Weber & Groves, Architects.

voted to all the uses of civilization, it is unfortunate that they are rarely of architectural merit. The churches are generally of stone construction, which precludes their illustration in this article. Several of them are of distinct merit, especially Christ Church Cathedral, designed by Leopold Eidlitz in 1859. The Schuyler Memorial House, which adjoins it, is the work of Shepley, Rutan & Coolidge, and while it is of brick and terra-cotta, it is in harmonious keeping with the early English Gothic design of the stone church. Like many commercial buildings its architectue does not extend beyond the façade; nevertheless it possesses an architectural treatment which bespeaks its purpose—that of a mission house to the cathedral.

The Dodds Sanitarium, by M. P. McArdle, is an attempt to depart from precedent, and as such merits the respect which should be accorded earnest study and honest endeavor. Illustration in black and white fails

to convey an adequate idea of the color scheme, without which a correct idea of any building cannot be had, since color plays no unimportant part in every architectural composition.

The Christian Science Church, by Theodore C. Link, is a well managed design of unusual interest. While it does not convey the idea of a church, it clearly expresses the purpose of a mission house or place of assemblage for a religious society.

The old St. Louis Club, by Peabody & Stearns, has been abandoned for a more pretentious structure. It is a very dignified and successful building, and although in a style whose vogue has passed, it is charged with that indefinable quality called style which will cause it to retain its charm as an architectural composition as long as it stands.

The attached buildings of the St. Louis Medical College and the Missouri Dental College are worthy of remark for their well-controlled design. They exhibit a discriminating use of buff terra-cotta for ornamental purposes, a color that harmonizes well with the mottled brick of the walls and one that shows the refined detail to the best advantage.

Armories of atrocious design have been the common infliction of all cities large enough to justify their existence, but St. Louis has been more fortunate in her armory than many cities. Why they should be so unsightly is beyond comprehension, for they offer a fine opportunity for architectural treatment. The one illustrated is unobjectionable save for the weak label mold over the windows and portal—a piece of detail out of keeping with the feudal style and character of the building.

New purposes call into existence new kinds of buildings which express these requirements and in time become fixed types. In the Bell Telephone branch by Eames & Young, and the Kinloch Telephone Building by Isaac S. Taylor, may be seen practically the same problem interpreted by different architects. The former building has received formal and dignified treatment in a vitreous looking brick of varying shades of red with trimmings of white terra-cotta, while the designer of the latter building has had recourse to the freer English style for a model. The brickwork of both buildings invites attention because of unconventional treatment.

Until recent years our public schools were badly planned, badly designed and badly built, "as bad as bad can be," but with the advent of Commissioner Ittner we have fallen upon happier lines. In the Field, Wyman and Emerson schools we have buildings that show a marked advance upon previous work and bear favorable comparison with similar work elsewhere. The same careful study that entered into the plan and design is also manifested in the handling of the brick, with the result that they are among the most interesting examples of brickwork in the city. As they constitute a class in themselves they will be described in a future number of THE BRICKBUILDER.

In passing it may be said that the invasion of outside architects has been, on the whole, of advantage to the city, as it has infused new ideas which have added to its architectural interest. It cannot be noted, however, that it has had any appreciable effect upon the style of local designers.

/ The New Schlesinger and Mayer Building, Chicago.

SUBSTRUCTURE, STRUCTURE, DESIGN AND FIREPROOFING MAKING AN ARCHITECTURAL UNIT.

BY a rare combination of artistic design, constructive skill and ingenuity, Louis H. Sullivan has just completed at Chicago the second section of the Schlesinger and Mayer department store building. He alone has not only designed it, but has devised all the mechanical expedients necessary to accomplish its completion within a given time. He has made his own time table and has lived up to it, as the truthful photographs will show. But this, however, has not been possible without the executive collaboration of the contractors. His experience is the latest illustration of a new method of time saving (which means money saving) when applied to the construction of large commercial buildings. It is no less than commencing the foundations for a new building ninety feet below the surface of the ground while the old one is in use, and completing them before it is torn down. The saving in rental value has been many times greater than the extra cost of doing the work under such disadvantages. This process is only possible when the new method of erecting high buildings on "concrete wells," now almost universal at Chicago, is employed.

Mr. Sullivan is, above all things, an opportunist. He accepts every exigency prescribed by modern commercialism. He solves every problem from the economic standpoint. He adopts the best materials for his purpose before designing, and then bends them to his will. He conceives the building as a whole and the way in which it should be built as essential features to control his final design. He accepts the modern machine, and demonstrates its capacity to assist him in evolving a work of art. He does not despise the task of designing a commercial building, but rejoices in it. Neither does he neglect to use hand work, but encourages it where practicable. He is an artist himself and has a following of skilled artists whom he uses in their proper vocation. In these respects he lives in the twentieth century.

The Schlesinger and Mayer building, a plan of the old and new foundations of which is given (Fig. 1), was three years ago a conglomeration of old retail stores covering an area of 182 by 140 feet on the most valuable corner in the city of Chicago. These buildings had to be increased from four and five stories in height to seven stories, and had, by removing most of the party walls, been thrown into one building. It was a very dangerous fire risk and not altogether a very safe building in other respects. Three years ago Section 1 was rebuilt nine stories in height, being a thoroughly fireproof structure on a foundation of fifty-foot piles, except on the party lines, where the foundations were concrete wells four feet in diameter, designed to carry a nine-story building. When ready to proceed with Section 2, which has just been completed, it was decided to build the whole twelve stories high. The general plans were made when Section 1 was built, and when the owners concluded last summer to begin Section 2 there was still plenty of time to prepare the plans and get out the materials. But it was

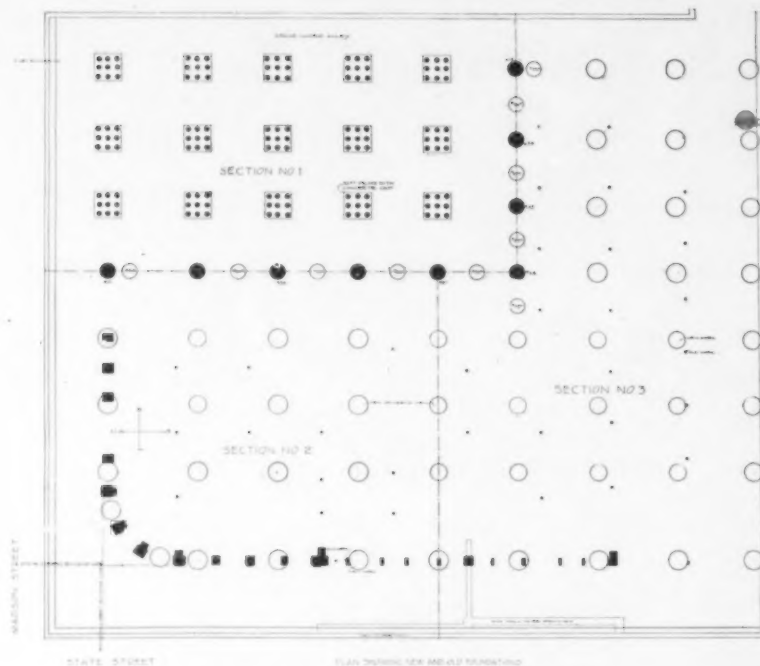


FIG. 1.

greatly to the interest of their business to continue to use the corner section until Christmas of 1902. Then it was that Mr. Sullivan conceived the idea of building the foundations, not only of Section 2, but also of Section 3, before the first floor of the store should be vacated. He knew that it would take longer to dig the wells and put in the concrete under such disadvantages than if the work should be done on cleared ground, and also that it would cost more to do it, but nothing like the value of the use of the old building during the time required for this part of the work.

In the middle of August, 1902, the architect received definite orders to proceed with the work. He was obliged to change the construction of a nine-story building, already planned, to twelve stories, both as regards Section 1, which had been erected three years ago, and Sections 2 and 3. Section 2 was required for use May 1, 1903, and Section 3 on October 1, 1903, without serious interruption of the business carried on in the building. On October 6, 1902, he was ready to commence work. Accordingly the basement of Section 2 was cleared of stock and fixtures, and as soon as the basement of Section 3 was required by the builders, that also was cleared. On the basement plan (Fig. 1) the piles and concrete wells that had been used for the foundations of Section 1 are shown in full black; the piers and columns forming the support of the old buildings covering Sections 2 and 3, which were to be removed, are also shown in full black. The new permanent concrete wells on which the whole of the new sections are to be supported, including the new concrete wells required to reinforce those under the boundary line of Section 1, are all shown in outline

only. The latter are numbered 25A, 26A, 27A, 28A, 29A, 37A, 44A, 53A, 60A and 71A, and became necessary by reason of the fact that the original wells on these lines, put in to carry a nine-story building, were not deemed strong enough to carry twelve stories. The weight of these columns is transferred to all the wells by a system of steel cantilevers and lintels, which will not be here described in detail, but those interested will find a description prepared by Mr. Sullivan in the *Engineering Record* of February 21, 1903, giving full statistics.

It will be seen that a great number of the new piers fortunately came between the old columns and even between the piers of the exterior walls. But some of them had to be in the same place, making it necessary to place a considerable part of the old seven-story building on shores and screws. This was complicated by the necessity for keeping the whole building from the first story up supplied with water, drainage, heat and electric lights, as well as operating many elevators. Mr. Sullivan says; "The underlying soil was filled

with a motley assortment of discarded foundations, discarded sewers and water pipes, and operating sewers, water pipes, underground sprinkler system pipes, etc." All the work was done through two towers built on the sidewalk on the State Street side, furnished with elevators. All the surplus earth and materials were taken out and all the new materials were taken in through these, and nothing was ever laid down in the street. The new cellar is deeper than the old one, and that was the cause of another complication to be overcome. A very large part of the old material to be removed was crushed in the cellar and used in the concrete of the piers, and all new concrete was made with pebble gravel instead of crushed stone. The apparent secrecy with which the foundation work was done was another peculiar feature of the oper-

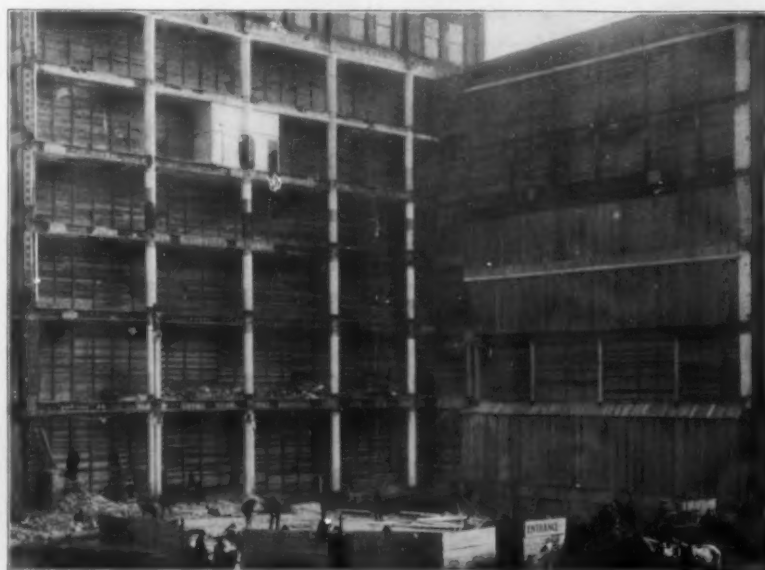


FIG. 2. PHOTO TAKEN JANUARY 15, 1900.

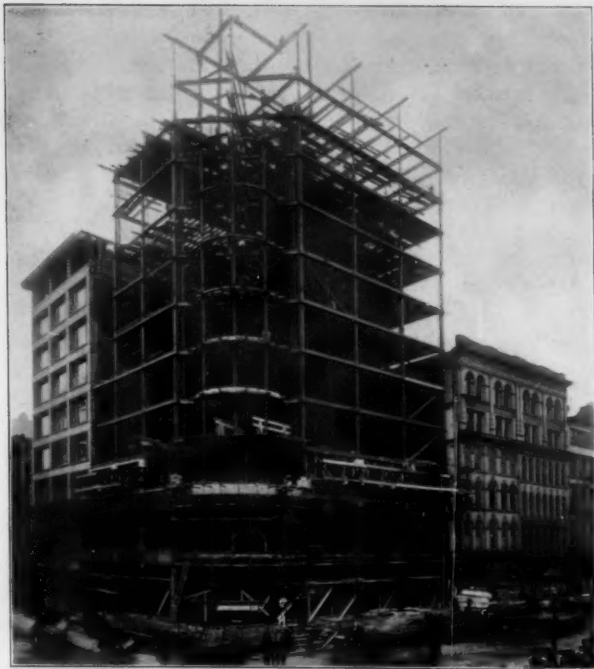


FIG. 3. PHOTO TAKEN MARCH 23, 1903.

ation. The object was to avoid any interference with the business being carried on above the work, of which the show windows for holiday displays were an important feature.

Mr. Sullivan says: "It was not considered expedient to sink more than five or six wells at one time, as the operation of a greater number would require a larger gang of men than could have been used effectively. Work on both shoring and wells was pushed night and day with



FIG. 4. PHOTO TAKEN MARCH 31, 1903.

three eight-hour shifts, and was suspended only between the hours of midnight Saturday and midnight Sunday. The work was kept steadily under way until January 1, 1903, at which date fifty-three out of the fifty-nine foundation piers, built in wells, were in place. After due consideration it was determined to postpone the sinking of the six remaining wells, which would come under operating passenger elevators, freight elevators, package conveyor and smokestack, until the time should come for the demolition of Section 3. It was found that well sinking progressed at an average of about one well per day, or in other words it required about six days to sink and fill one well. Wherever possible the piers and columns of the old buildings were reset upon the new concrete piers. The south line wall of the adjoining building was put on drums, a small section at a time, and the new foundation inserted at a lower level; after allowing proper time for the setting of the cement the wall was again underpinned and allowed to rest upon the new



FIG. 5. PHOTO TAKEN APRIL 13, 1903.

foundation. The south wall of the new building is to be built within the lot lines of the property. The south row of new steel columns will therefore be cantilevered according to the method that now prevails."

On January 6, 1903, the wrecking of the corner building occupying the site of Section 2 was commenced and was completed in nine days of sixteen working hours each, operations at night being conducted by the aid of electric lights. The illustration (Fig. 2) is from a photograph taken January 15. On the left is seen the completed Section 1, and on the right the old building on Section 3, still in use, and connected internally with Section 1. The fireproof columns seen are of the "Gray" pattern. These, having been designed for a nine-story building, have since been removed, and cast iron columns substituted. In figuring out a time schedule in August, 1902, it was found that while steel girders and floor beams could be obtained by January 1, 1903, it would be impossible to procure steel columns in that time. Con-

sequently cast iron columns are used in Section 2, and Z bar columns will be used as originally contemplated in Section 3, which is not yet commenced. These are now ready to be used as soon as Section 3 is torn down.

The illustration (Fig. 3) shows the condition of the work on Section 2 on March 23. This also shows the Section 1, nine stories high, completed in 1900, and Section 3 not yet demolished. Seven days after this, on March 31, the photograph shown in Fig. 4 was taken, showing how much work was done in one week. In that time the steel work had reached the roof and five stories of the white enameled terra-cotta front had been set, and nearly all of the elaborate ironwork of the store fronts on the first and second stories. On April 6 all the terra-cotta except the main cornice had been set and the first story iron front had been completed, all the fireproof floors had been completed, and five stories had been

steel framework concealing all the girders and making the ceilings continuous throughout the building. These will be plastered on metal lath and are for uniform appearance only. They are incombustible but not depended upon for fireproofing the structural steel, all of which is done with porous terra-cotta. The illustration taken from the working detail drawing shows the disposition of other features of the fireproofing.

As has been said above, the concrete piers under Section 3 have already been built in wells, though the old building above was used up to May 9. Their tops are sufficiently below the basement floor to allow for setting the spreaders on which the steel columns will stand, and they are five feet in diameter. Since putting them in it has been decided to excavate a sub-basement 50 by 140 feet in dimensions below the basements of Section 3 for a boiler and power plant, and to give it a clear height of

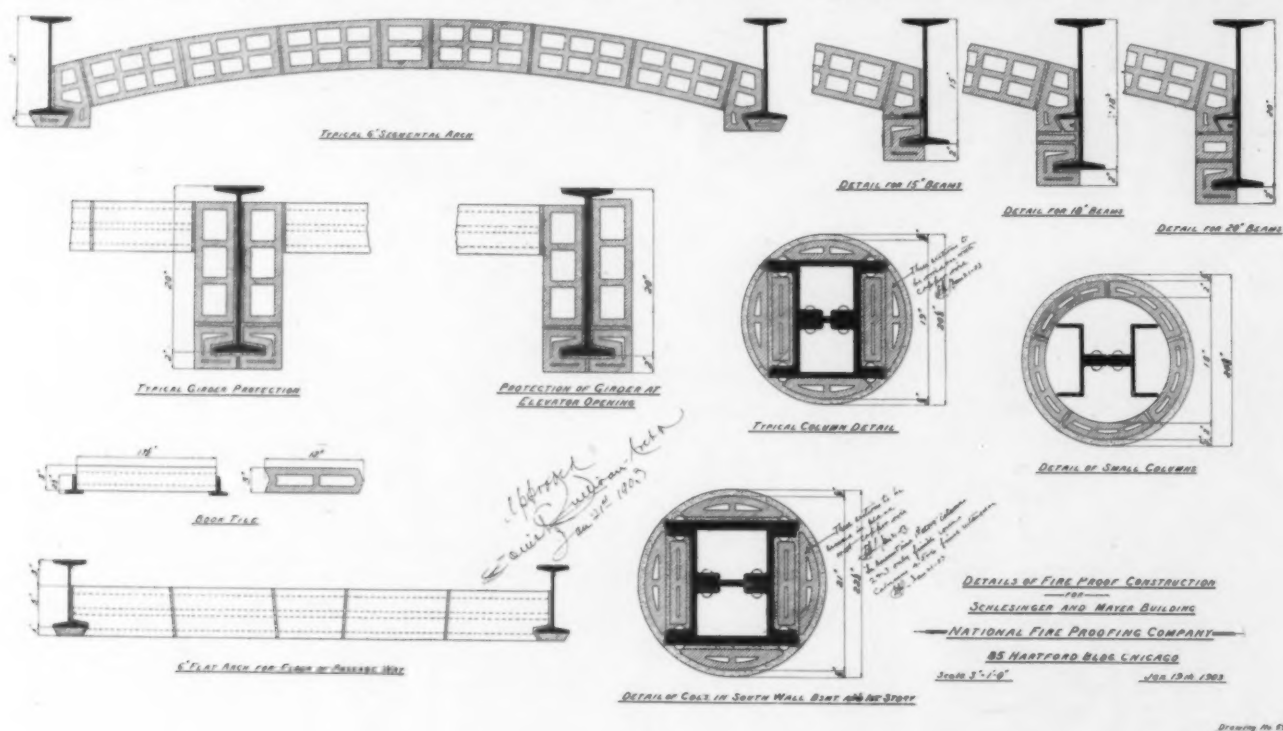


FIG. 6.

plastered on the suspended iron ceiling. Fig. 5 is from a photograph taken April 13, showing the exterior completed and most of the glass set. Section 2 was completed and opened for business on the 11th of the present month, and the same day the destruction of Section 3 was commenced. After this Section 1 will be carried up to twelve stories without disturbing the business carried on beneath, and the whole store will be completed in time for the fall business. It is well to note here that Section 2, a complete store in itself, has been built in four months from the time that the tearing down of the old building was commenced.

It only remains to refer to the fireproof work, all of which is carried out in porous terra-cotta. Fig. 6 fully illustrates this. Segment floor arches are used throughout with very few exceptions, the girders and beams being entirely encased. In all of the stories used for selling purposes suspended flat ceilings are constructed on a

twenty feet. This involves a new constructive problem that has not yet been solved. It will be necessary to build a concrete retaining wall around the excavation to resist the pressure of the soft wet clay subsoil, which has heretofore been done in only one other building in Chicago. It was successfully done in this case, though at great expense. The excavation will leave the concrete piers that were built in the wells exposed to view in the sub-basement. They will be only four diameters in height above the floor. It has not yet been decided whether to leave them standing as columns supporting the steel posts running up through the thirteen stories, to cut them off and substitute steel columns in the sub-basement, or to reinforce them with steel around the outside. One method or the other will have to be followed, and probably the first; while concrete beams will probably be built below the sub-basement floor connecting all the exposed piers to brace them laterally at that level.

Selected Miscellany.

SLOW BURNING CONSTRUCTION.

SOME one has made the bright remark that the lightning calculator is not quick enough to keep up with the losses on slow (?) burning mill construction. We heard one explanation of the difference between the ordinary construction and the slow burning, that in the former the floor construction was of soft pine, while in the latter it was entirely of hard wood. The efforts which some parties have made to reduce the fire risk on mills have undoubtedly met with great success. Slow burning construction is far better than the old system of air channels, lack of fire stops and general combustible condition, but the principle is wrong. If we are to be literally exact, such a thing as a fireproof building is impossible, for, given the proper conditions, there is nothing which will ultimately resist fire; but according to the accepted meaning of the term, it is so perfectly possible to construct a fireproof building with a proper steel frame, protected by at least one inch of terra-cotta, that it is hard to have full sympathy with those who would advocate the use of the so-called slow burning construction. The Pittsburg Plate Glass Company had one of its large mills recently destroyed by fire, entailing a loss of several hundred thousand dollars. The new structure which is

to take its place apparently follows exactly the lines that failed before. The advocates of slow burning construction cite the fact that a wooden post will stand fire without failure longer than an iron one; that since an amount of heat far below the melting point of iron will so weaken the material that it will deflect and fail, therefore a wooden post which does not deflect until it is almost entirely consumed is to be preferred. This argument is entirely wrong. If we can prevent the start of a fire it is of far more importance than to have a structure which

will burn but continue to stand up. We maintain that experience shows even unprotected ironwork to be safer construction than the so-called slow burning, and if with such unprotected ironwork there is coupled a reasonable care in the reduction of fire risk of the contents the iron construction, insufficient as it may be, is far preferable to any wooden construction which would be sure to materially aid in the spread of the fire.

FIRE LIMITS.

A CLAUSE in the Boston building law provides that in any structure intended to be used for commercial purposes

the area in each story must be so divided into compartments by brick walls that no undivided floor space shall exceed 8,000 square feet if the building is of ordinary construction, or 10,000 square feet if it is fireproofed. A bill has been introduced into the legislature to repeal this provision. The opposition to this clause in the building law comes chiefly from real estate operators



SOUTH BAY MISSION HOUSE, BOSTON.
R. C. Sturgis, Architect.



DETAIL BY W. S. STODDART, ARCHITECT.
Northwestern Terra-Cotta Company, Makers.



DETAIL BY A. F. ROSENHEIM, ARCHITECT.
Winkle Terra-Cotta Company, Makers.



DETAIL BY VICTOR HUGO
KOEHLER, ARCHITECT.
New Jersey Terra-Cotta Company,
Makers.

Marsh Company, which has perhaps the largest department store, has a floor area of something like 60,000 square feet, which is practically undivided, and there are several others nearly as large. The repeal of this portion of the law is being strongly opposed by the Boston Society of Architects, the Master Builders Association, and the underwriters, and we have yet to hear of any valid reason why floor area should not be restricted except the one that the shopkeepers want no partitions of any sort. We fail to see why as much business would not be done and done as well in eight compartments of 8,000 square feet each as in one of 64,000 square feet, and we can hardly believe that the amendment will prevail.



DETAIL BY HERTS & TALLANT, ARCHITECTS.
Perth Amboy Terra-Cotta Company, Makers.

and commercial men, who vehemently claim the right to construct a department store with any floor area desired. We believe Boston is one of the very few cities in which such restriction is made, but practically it is inoperative for the reason that since it became law no department store of any size has been erected. The Jordan,

WESTMINSTER CHAMBERS, BOSTON.

THE Massachusetts legislature has just refused to modify the laws relative to the region about Copley Square, Boston, and under the provisions of the existing law the owners of the Westminster Chambers, a hotel



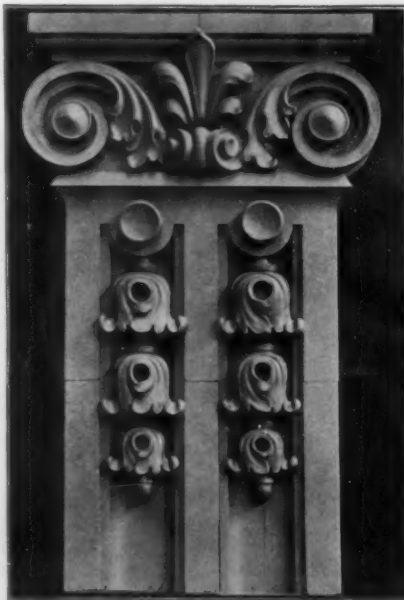
DETAIL BY G. W. & W. D. HEWITT, ARCHITECTS.
Conkling-Armstrong Terra-Cotta Company, Makers.

the site of the Westminster cannot be carried as high by ten feet as buildings directly across the square, and the limitation is even more severe on Commonwealth Avenue and the parkways, though, by a curious reversion of the intent of the law, a building on a corner of Commonwealth Avenue which has its nominal front on a side street can



DETAIL BY ST. LOUIS TERRA-
COTTA COMPANY.

immediately adjoining Trinity Church, will undoubtedly be at once called upon to either remove entirely the present upper story or to so reduce the height thereof that it will have little commercial value. The damages in this case, which will undoubtedly be very high, fall by decision of the Supreme Court upon the city of Boston. In some respects the Boston building law is one of the best in the country, but in its application, unfortunately, discriminations have been made regarding the height of buildings in certain portions of the city, so that about Copley Square, for example, the buildings on



DETAIL BY BUCHMAN & FOX, ARCHITECTS.
Atlantic Terra-Cotta Company, Makers.

be carried to a height of one hundred and twenty-five feet by the simple process of setting it back a short distance from the avenue building line, while its neighbor immediately adjoining can go only seventy feet. It is a great pity that the clauses in the building law which relate to the height of buildings cannot be fundamentally modified. The city has just passed through quite a boom in the erection of office buildings. Unfortunately the greater portion of these have been financed by promoters whose chief interest was to crowd the greatest amount of rental space on to the lot, and as the height in each case is restricted to one hundred and twenty-five feet, the more recent buildings have all been made eleven stories, reducing the clear height of the offices in some cases to less than eight feet and a half. The experience in every other city in the country has shown that ten feet is none too much, and any



GYMNASIUM AND AUDITORIUM FOR UNIVERSITY OF CHICAGO SETTLEMENT, CHICAGO.
Dwight H. Perkins, Architect.



BOYS' CLUB, PAWTUCKET, R. I.
Stone, Carpenter & Willson, Architects.

one who has had the pleasure of working for years in offices with a height of eleven or twelve feet can readily appreciate how disagreeably oppressive is the effect of the modern low studding. It would be an excellent move if the statutory limitation could be made either one hundred and twenty feet, which would effectually prevent anything more than ten stories, or else one hundred and thirty feet, which would permit of eleven stories far better than are at present possible.

As regards the height of buildings, we share the conviction of many architects, real estate own-

stiffing, cañon-like treatment which is becoming so marked in cities like New York and Chicago, and it would tend to encourage consolidations of interest and building of a few large structures rather than several very small ones.

NEW YORK BUILDING DEPARTMENT.

MR. PEREZ M. STEWART, who for several years has acted as a most efficient head of the building department of New York City, has been summarily removed by Cantor, the president of the borough of Manhattan.

ers and builders that the limitation should be a relative rather than absolute one. The best solution of the problem we have seen is that offered by Mr. Carrère to the New York legislature some years since, proposing that the height of a building should be restricted so as not to extend at any point in the lot above a line drawn from the property line on the opposite side of the street, making an angle of sixty degrees with the horizontal. This would permit of structures being carried to any desired height, provided only that as the height was increased the building or portions of it at least be correspondingly set back from the line. Such a provision would have two beneficial effects: it would absolutely prevent the



DETAIL BY WINSLOW & BIGELOW, ARCHITECTS.
Excelsior Terra-Cotta Company, Makers.



DETAIL BY WILLIAM W. ROSE, ARCHITECT.
American Terra-Cotta and Ceramic Company, Makers.



REPRESENTATIVE TYPE OF NEW YORK SCHOOL BUILDING.
C. B. J. Snyder, Architect.

Terra-Cotta furnished for about twenty such buildings during past two years by New York Architectural Terra-Cotta Company.

One of the New York papers, commenting on this action, has very fittingly described the New York building law as one of the most efficient vehicles for municipal corruption that has ever been devised. According to the law there is not a building regulation which cannot be temporarily or locally waived at the discretion of the inspector, and he also has the right of passing upon materials, refusing to accept or giving a preference for whatever he sees fit. The large contractors and building companies which have been formed during the past few years have often been charged with a perfect readiness to contribute liberally to the municipal authorities, provided such contribution will expedite building operations or make the task of building an easier one. And there is no doubt



THE IROQUOIS APARTMENTS, PITTSBURG.
F. J. Osterling, Architect.
Faced with "Ironclay" Brick, made by Ironclay Brick Company, Columbus, Ohio.

that such contributions have been made on a large scale to many who have been in the past connected with the building department. It is greatly to Mr. Stewart's credit, however, that no such charges have been brought against him and that he leaves his office with a clean reputation. His removal seems to be due chiefly to politics.

NEW YORK.

There probably never was a time in our history when the architects and builders of New York have been so busy as they are now. There is work for every one, and even the "journeyman draughtsman" is happy as he flits from one office to another, holding his position for a month at a time, never longer, but always employed.



DEAN BUILDING, BOSTON.
Built of Kittanning Buff Brick. Fiske & Co., Boston Agents.

The *Architectural Record* in commenting on the latest "aberration" makes an appropriate simile which is worth quoting. After commenting on the modern tendency to design a beautiful façade for a building and to leave the sides and rear bare and uninteresting, it says: "So would the fabled ostrich behave, if the ostrich were an architect, excepting that the ostrich tries to conceal as much as possible of his front elevation, forgetting that his rear elevation is still visible and conspicuous, while the architect makes his front elevation as conspicuous as may be, trusting that nobody will observe the rest of his awkward anatomy."

Two great modern fireproof hotels for Broadway, an eleven-story office and loft building for Twenty-third Street, a twelve-story apartment hotel for the Boulevard,

and last, but not least, a twenty-story office building on the site of the old Trinity Building, 111 Broadway, are enterprises which are to begin at once under the auspices of the United States Realty and Construction Company.

The combined engineering societies of New York are to have a new home to cost about \$600,000. This is made possible by the generosity of Andrew Carnegie, who has offered to pay for a building to cost \$1,000,000 if necessary.

It is about time that this city had a city hall or municipal building large enough to contain all the city departments, which are now scattered in rented offices all over the city. There have been many schemes suggested, but it seems to be the universal sentiment that the present city hall, which is a beautiful specimen of architecture, should remain as it is, and that a new building should be built up around it.

There has been one really fine scheme presented



HOUSE AT CINCINNATI, OHIO. Elzner & Anderson, Architects.
Roofed with American S Tile.

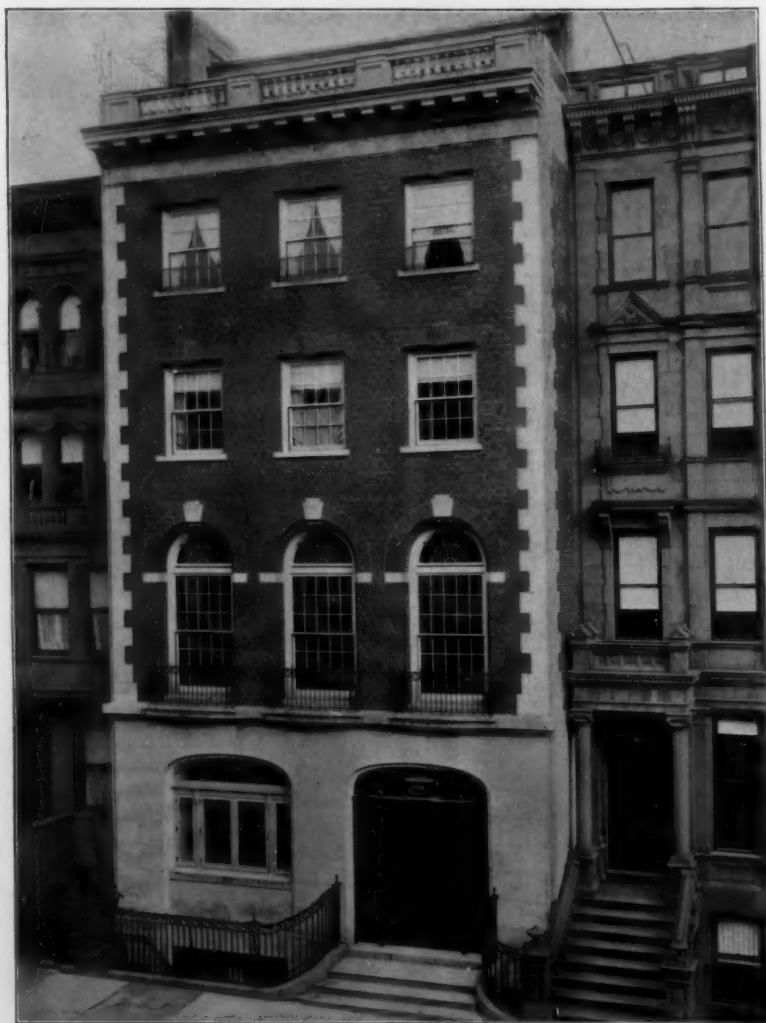
for the solution of the problem in this way in the plans made by the late Charles B. Atwood some ten or twelve years ago. Nothing which has since been proposed can equal this in any way. A wild and absurd design appeared in one of our monthly magazines recently, in an article by Mr. Cantor, the president of the borough. The architect's name was not signed to the sketch, and wisely.

Petit & Green have formed a partnership with Henry P. Kirby, one of the best and most celebrated draughtsmen of the day. The firm has on the boards plans for a twenty-four story office building for the New York *Journal*, and also a large hotel to be built in Brooklyn.

Clinton & Russell seem to be very busy. They are drawing plans for an eleven-story store and loft building to be erected on the southwest corner of Twenty-third Street and Fourth Avenue, the site of the old Young Men's Christian Association headquarters. The Association has vacated the building and will soon occupy their new home on Twenty-third Street, planned by Parish & Schroeder. Clinton & Russell are also preparing plans for a twelve-story hotel to be erected on the southeast corner of Broadway and Twenty-ninth Street, the site of the old Sturtevant House. The new building will be in the style of the French Renaissance, and will resemble the new Hotel Astor on Longacre Square. The same architects are working on plans for a twelve-story apartment house to be erected at the corner of Broadway and Sixty-ninth Street.

IN GENERAL.

Ward & Turner, architects, are associated with Olin W. Cutter in the building of the new courthouse at Utica, N. Y., illustrations of which were given in *THE BRICKBUILDER* for March.



HOUSE, NEW YORK CITY. Grosvenor Atterbury, Architect.
Built of Ridgway "Dutch" Brick. Robert C. Martin & Son, New York Agents.

Cass Gilbert announces the removal of his New York office from 111 Fifth Avenue to 79 Wall Street.

W. S. Ackerman and W. T. Partridge have formed a copartnership for the practice of architecture under the firm name of Ackerman & Partridge. Offices, 156 Fifth Avenue, New York.

Louis R. Christie, architect, Steubenville, Ohio, has succeeded to the business of Christie & Webster, retaining the old firm's offices in the Gill Building.

Monson & Schaub, architects, Logan, Utah, would like to receive manufacturers' catalogues and samples.

Uhling & Linde, architects, Milwaukee, Wis., have taken offices in the Wells Building and are desirous of receiving manufacturers' catalogues and samples.

The Society of Beaux-Arts Architects has established a course of study for architectural draughtsmen, modeled on the system adopted by the Ecole des Beaux-Arts, with the intention of cultivating among them the principles of their art which the members of the society have learned in Paris. Any group of students may choose a master



HOUSE, DETROIT, MICH.
Mason & Rice, Architects.
Roofed with Ludowici Roofing Tile.

under whom they wish to study, and under the auspices of the society they may exhibit their work done in competition with other groups of students studying under other masters. A jury drawn from members of the society will judge their work and give awards to the drawings which merit them. It is not the object of the society at present to provide a complete course in architecture, as this is done by several universities throughout the country, but so to prepare draughtsmen in offices that they shall be familiar with the general principles of architectural composition in plan and in decoration, and a sufficient knowledge of archaeology, or the study of styles, to enable them to discriminate between the different epochs of design.

The course is divided into two classes:

Class B, into which any one of either sex may enter without any preliminary examination.

Class A, which the student reaches after having received certain awards in Class B.

On completing the course, the society awards a cer-

tificate of proficiency. The course is not limited by time, the student being allowed to pursue his study at his own will or whenever he has the opportunity to do the work.

The competitions of the society are arranged just as at the Ecole des Beaux-Arts. The students all present themselves at one time and place with T-square, triangle and drawing board, and to every one is given the program of the current problem. From midday till nine o'clock they are at liberty to study its conditions, and at that time they must hand in to the person in charge a small sketch of their solution, taking away a copy of their sketch with them. They then have two months to work up their sketch, and at the expiration of that time it must be delivered for exhibition and judgment. The drawings are shown for a week and the jury criticises and makes its awards.

During the year there are given out five problems in plan, three in *esquisse-esquisses* or nine-hour competitions rendered *en loge* and two in archaeology; there is also a class in modeling, a class in drawing from the cast, an examination in general history, and a competition for two prizes in planning. — Lloyd Warren, Chairman Committee on Education, 3 East 33d Street, New York.



GARDEN VASE.
White-Brick and Terra-Cotta Company, Makers.

THE SOCIETY OF BEAUX-ARTS ARCHITECTS

HAS ESTABLISHED A FREE COURSE OF STUDY, OPEN TO DRAUGHTSMEN AND STUDENTS OF ANY CITY, MODELLED ON THE GENERAL PLAN PURSUED AT THE ECOLE DE BEAUX-ARTS IN PARIS, AND COMPRISING FREQUENT PROBLEMS IN ORDERS, DESIGNS, ARCHÆOLOGY, ETC.

FOR INFORMATION APPLY TO THE SECRETARY OF THE COMMITTEE ON EDUCATION, 3 EAST 33D STREET, NEW YORK CITY.

DRAWING

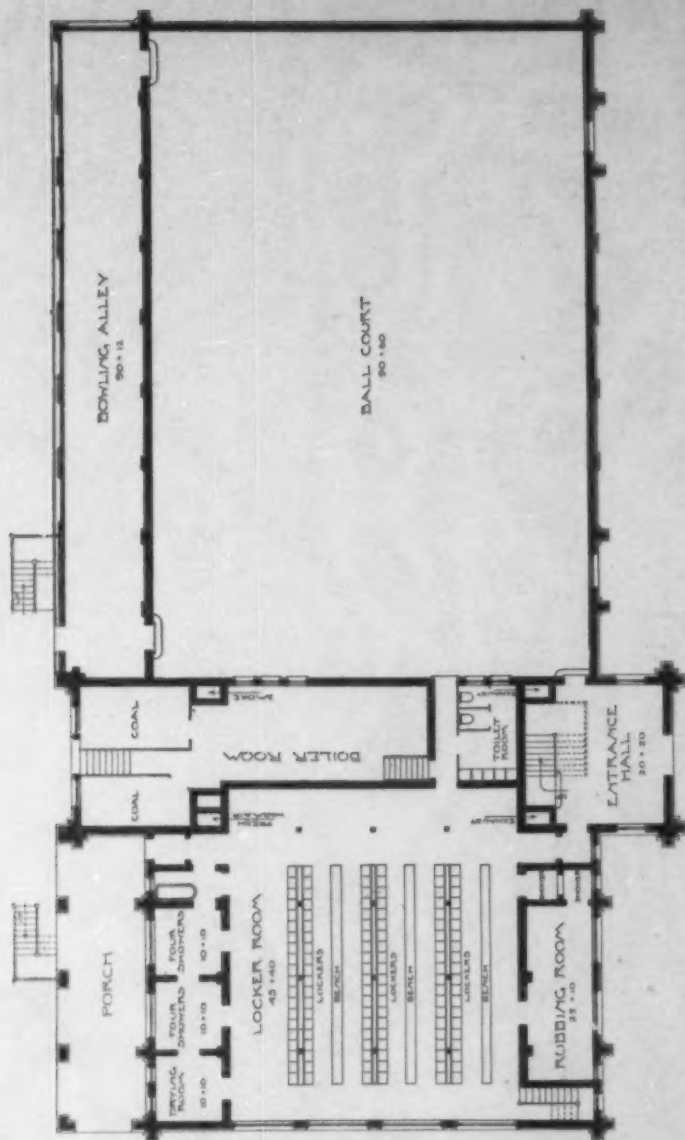
ARCHITECTURAL PERSPECTIVE MECHANICAL

THE courses in Drawing are of especial value to office men and students. Correspondence courses are also offered in Electrical, Steam and Civil Engineering, Heating, Ventilation and Plumbing, Architecture, Carpentry and Building, and a full curriculum of other engineering courses.

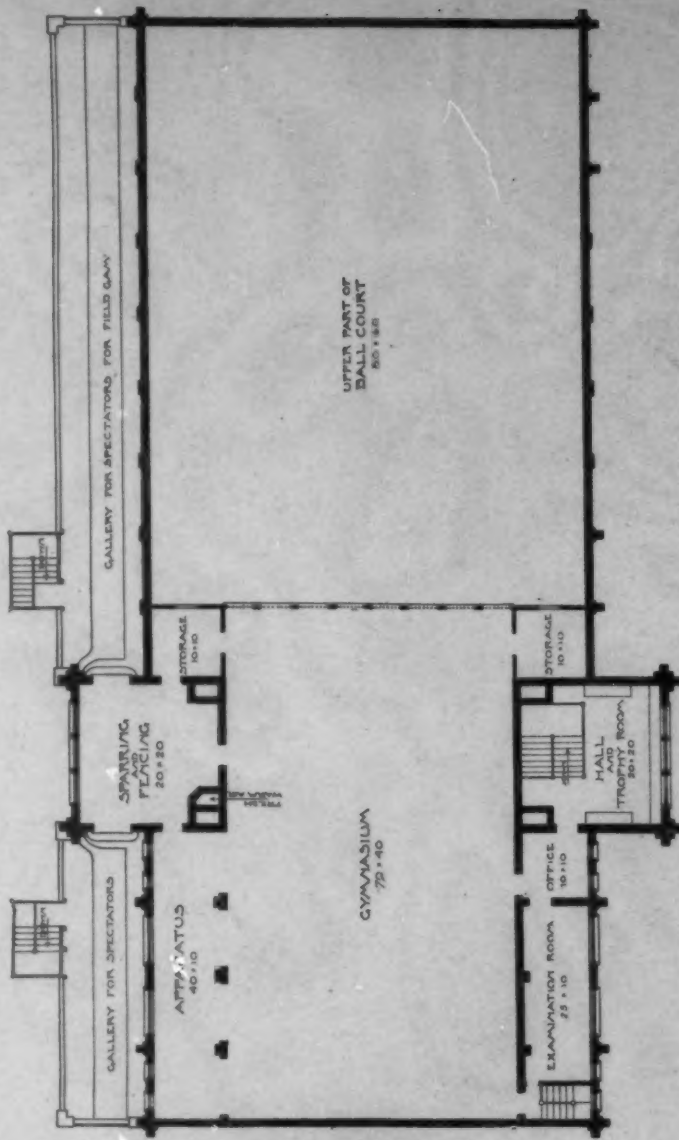
In addition to the regular instruction papers, students in full engineering courses are furnished a Technical Reference Library (in ten volumes) as a help in their studies. Write at once for catalogue.

AMERICAN SCHOOL OF CORRESPONDENCE
at
ARMOUR INSTITUTE OF TECHNOLOGY
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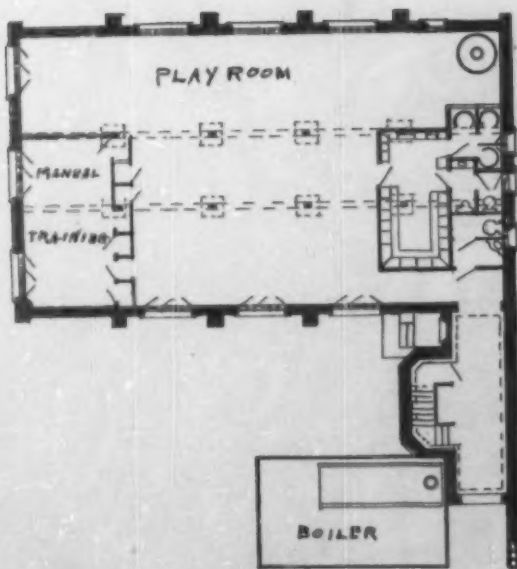
MAIN FLOOR.



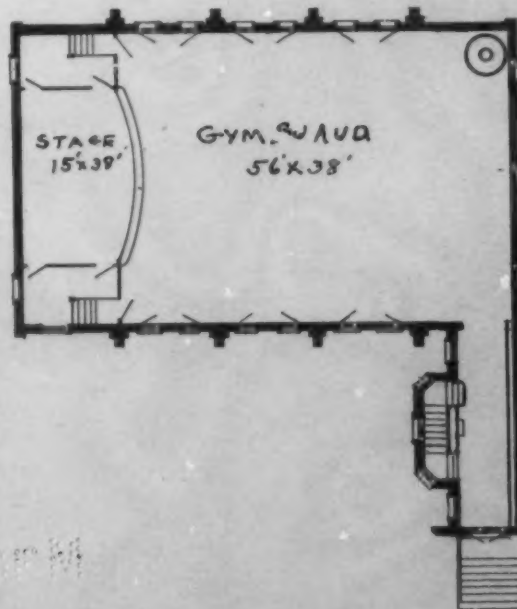
SECOND FLOOR.

PLANS, MORGAN PARK GYMNASIUM, UNIVERSITY OF CHICAGO, CHICAGO.

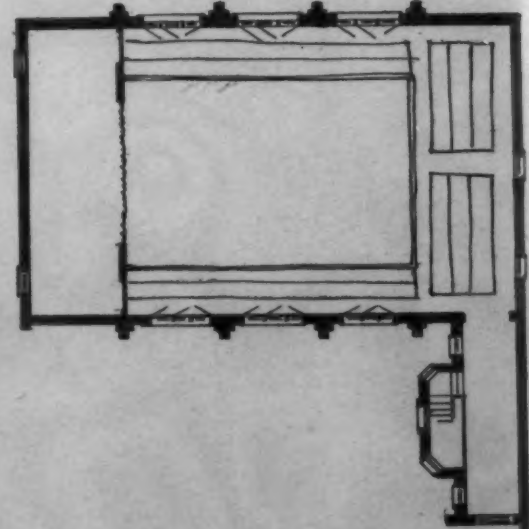
DWIGHT H. PERKINS, ARCHITECT.



BASEMENT FLOOR.



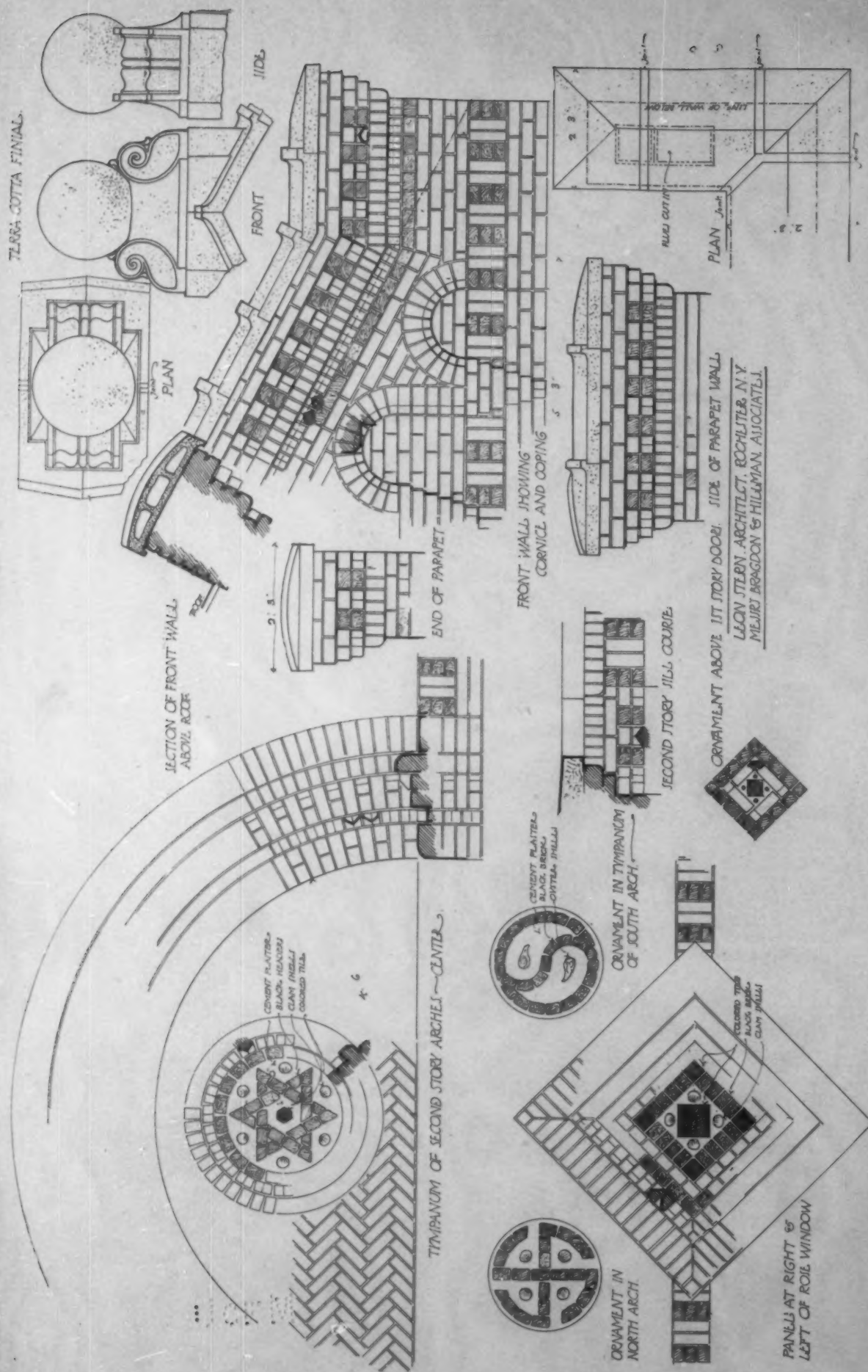
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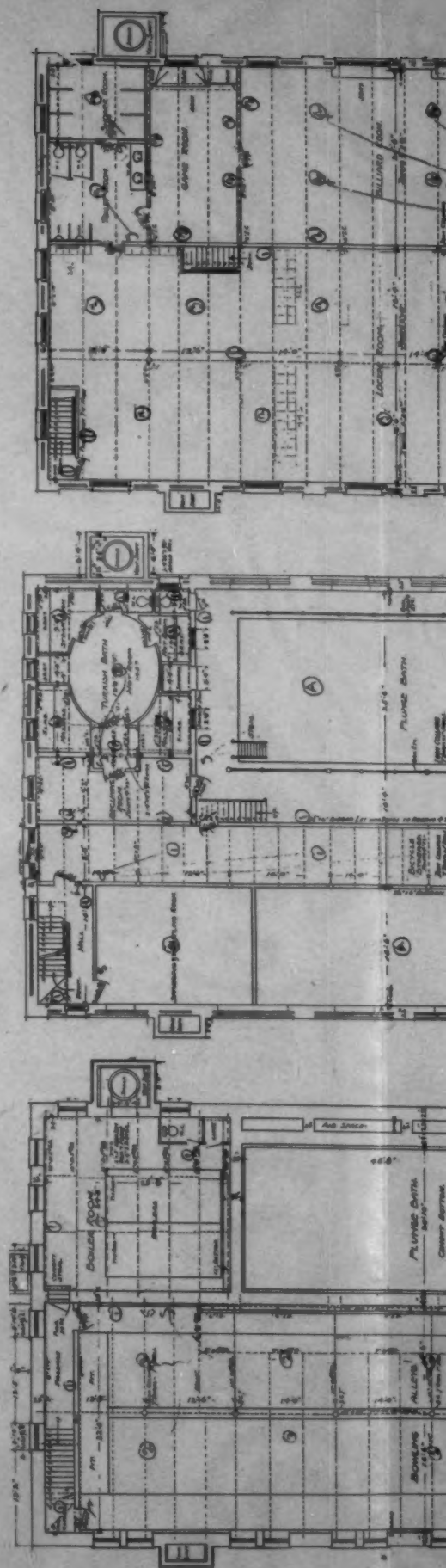
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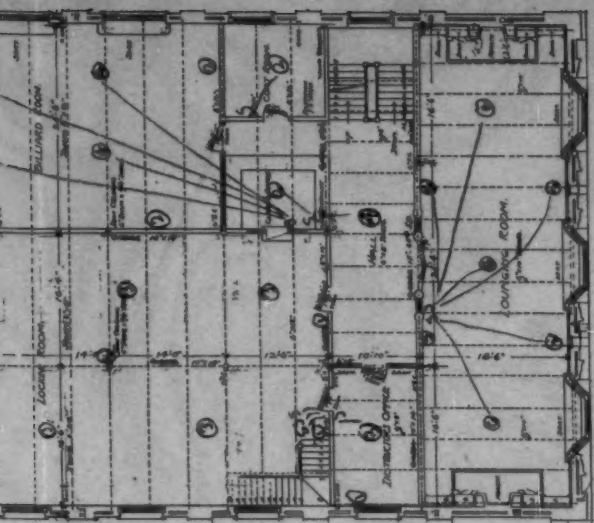
PLANS, GYMNASIUM AND AUDITORIUM FOR UNIVERSITY OF CHICAGO SETTLEMENT, CHICAGO.

DWIGHT H. PERKINS, ARCHITECT.

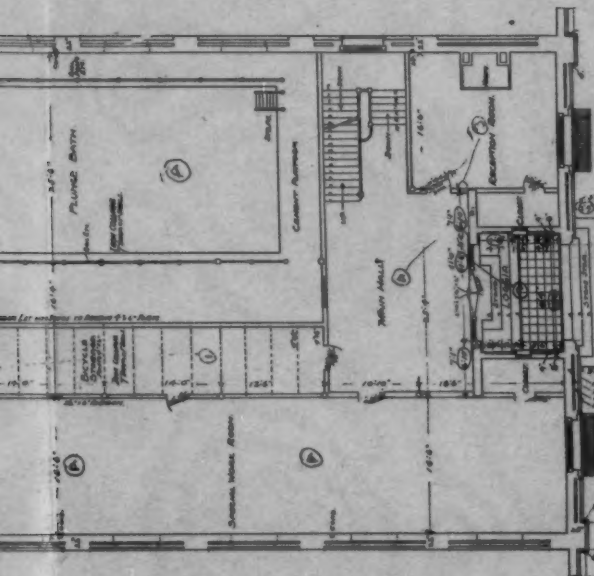


DETAIL OF ORNAMENTAL BRICKWORK AND TERRA-COTTA, ROCHESTER ATHLETIC CLUB, ROCHESTER, N. Y.
LEON STERN AND BRAGDON & HILLMAN, ASSOCIATE ARCHITECTS.

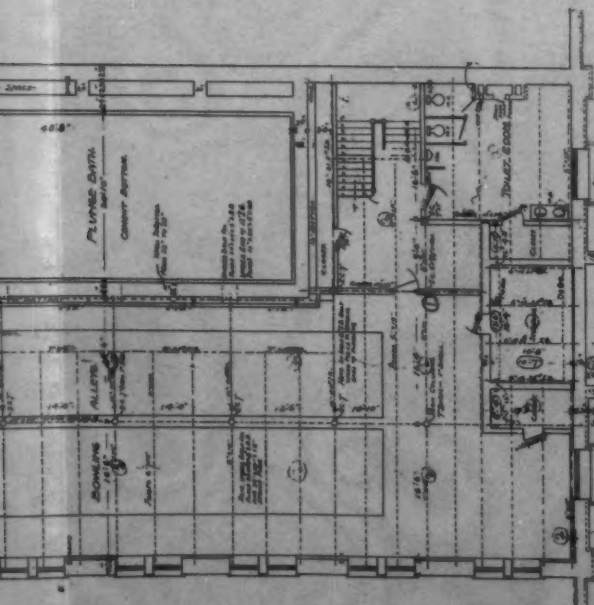




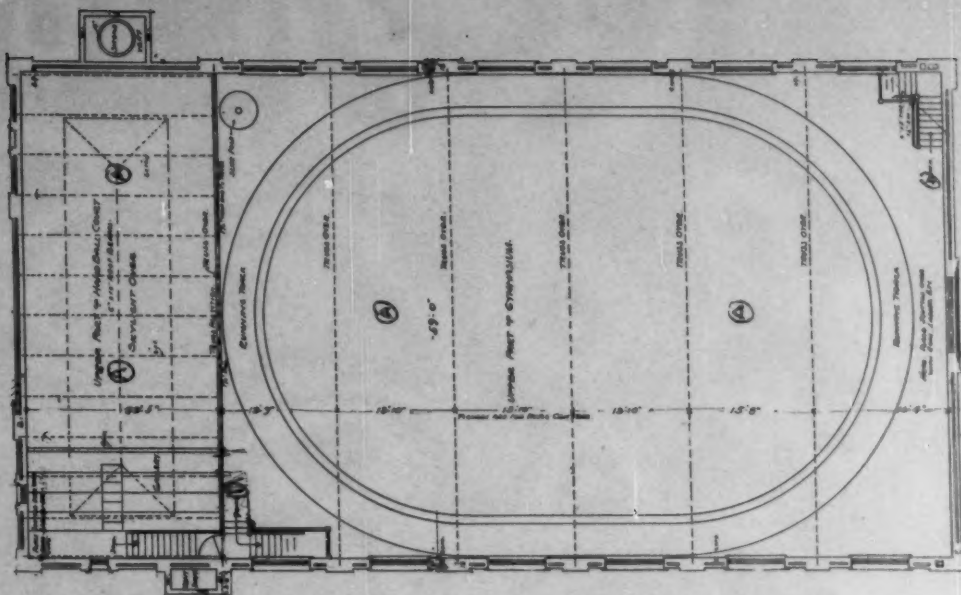
PLAN OF SECOND FLOOR.



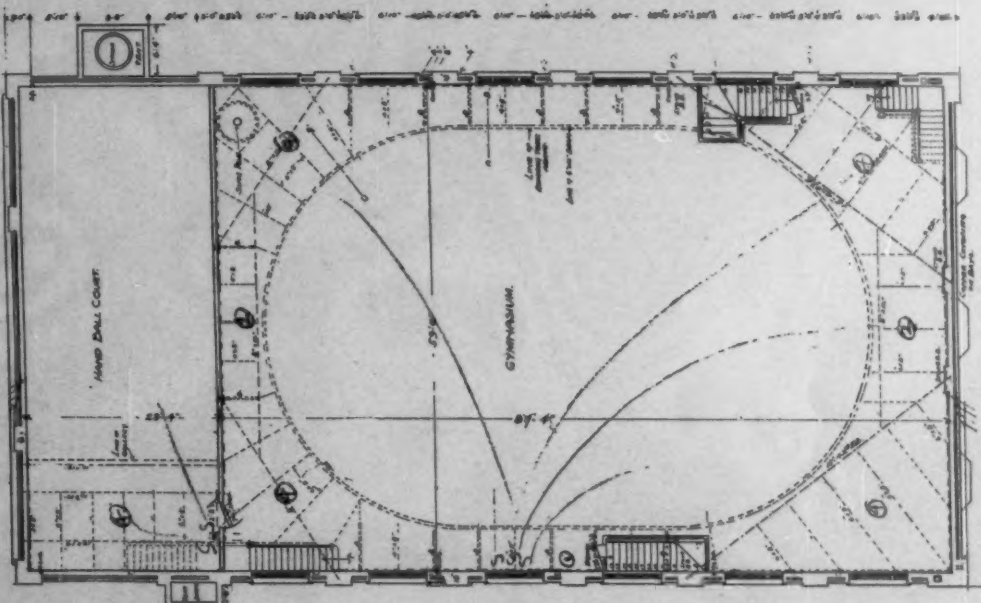
PLAN OF FIRST FLOOR.



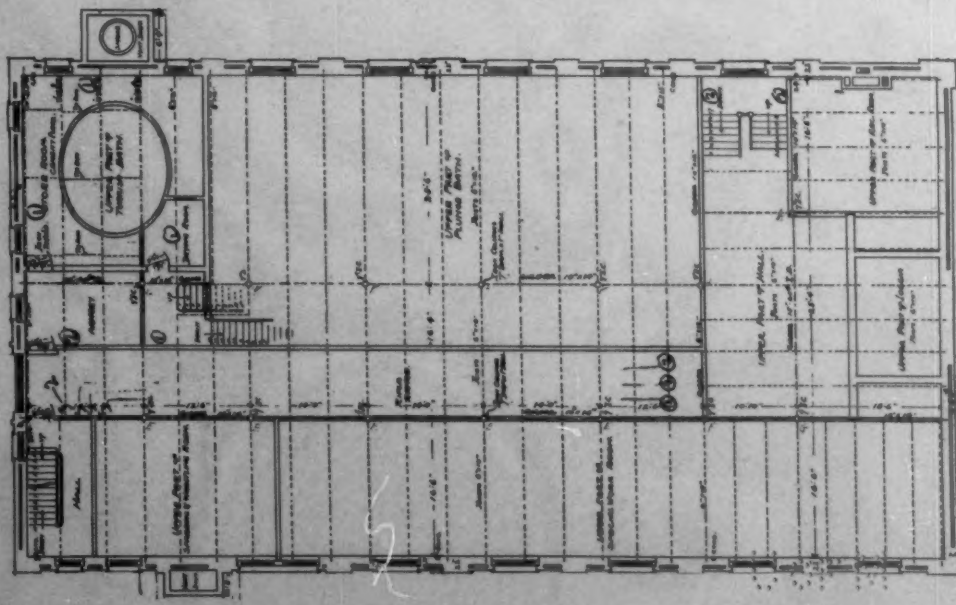
PLAN OF BASEMENT.



PLAN OF RUNNING TRACK.

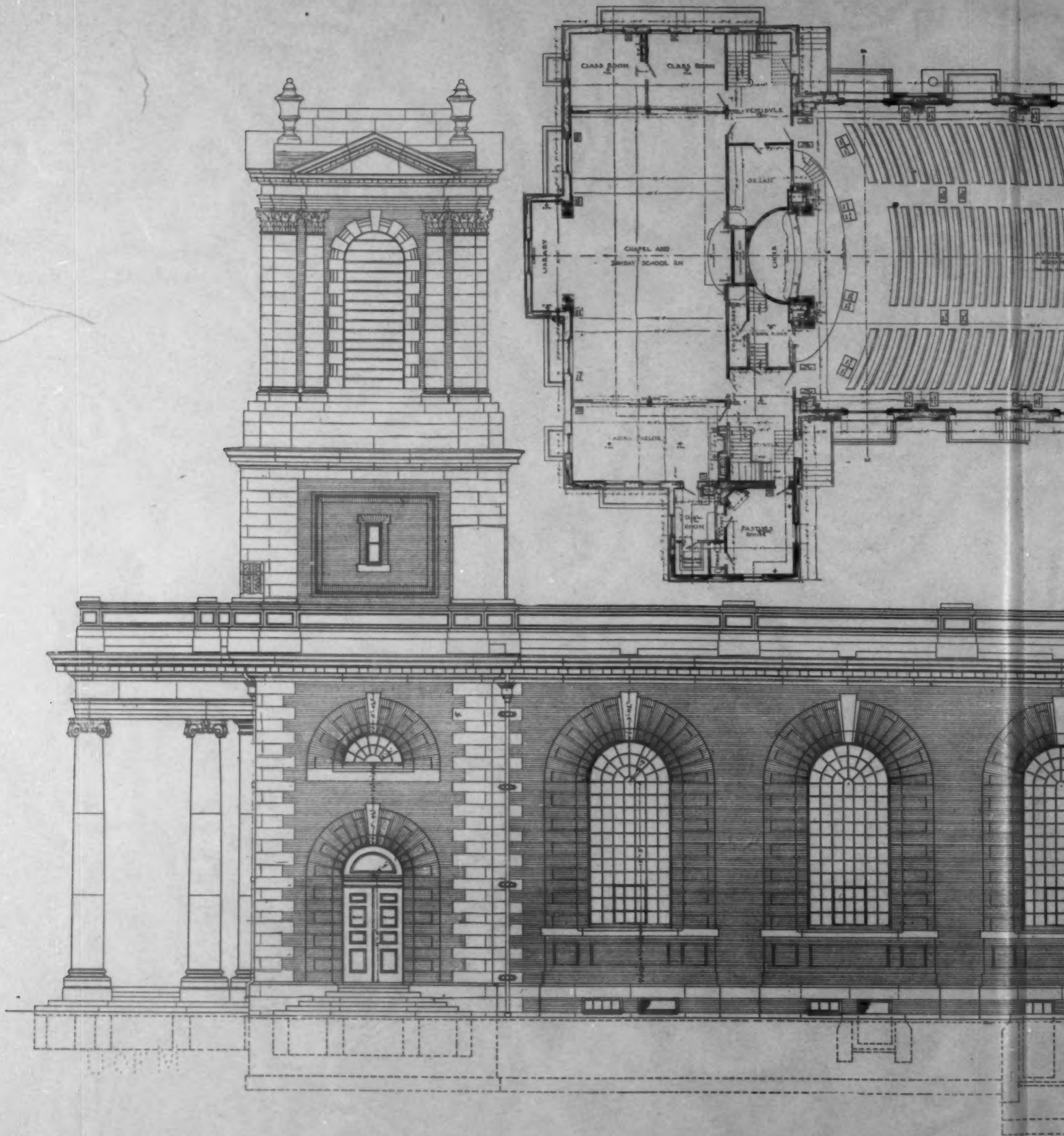


PLAN OF GYMNASIUM.

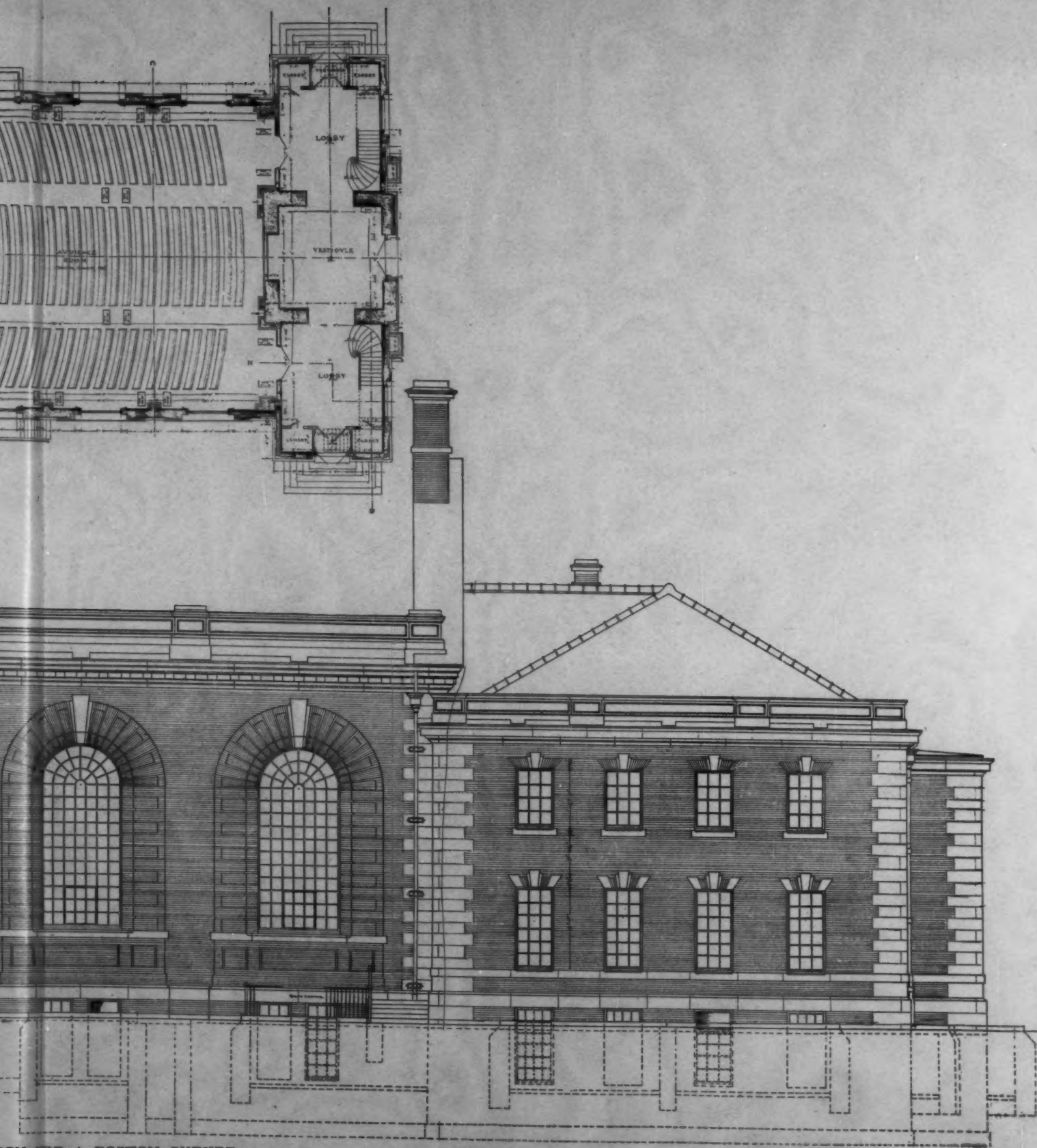


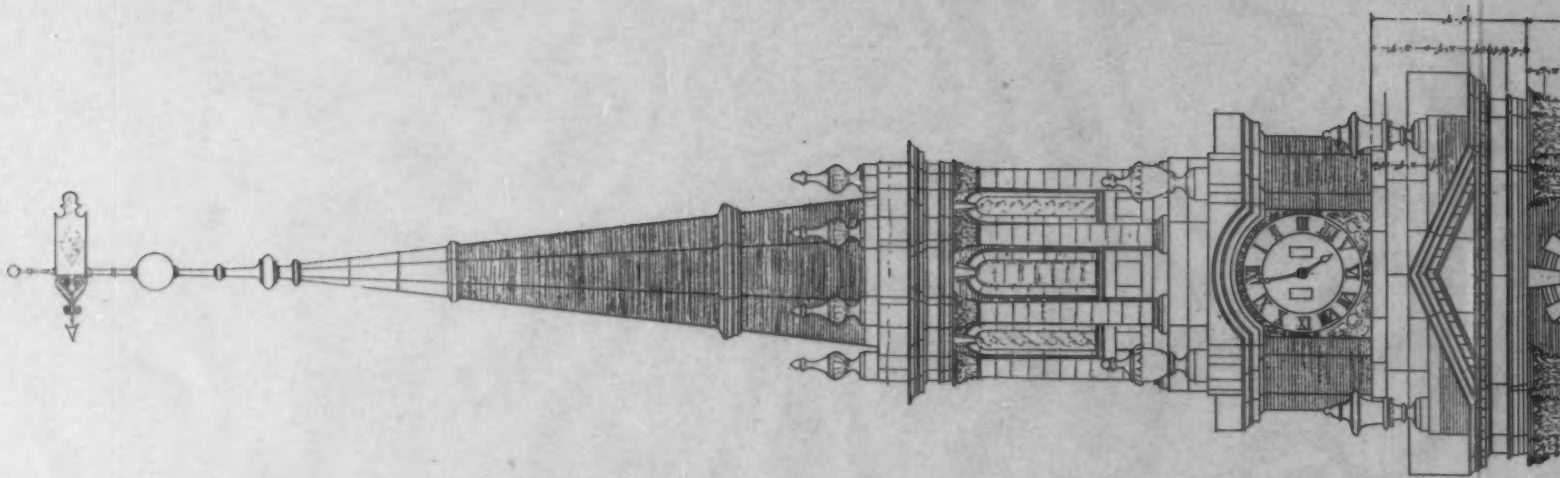
PLAN OF MEZZANINE FLOOR.

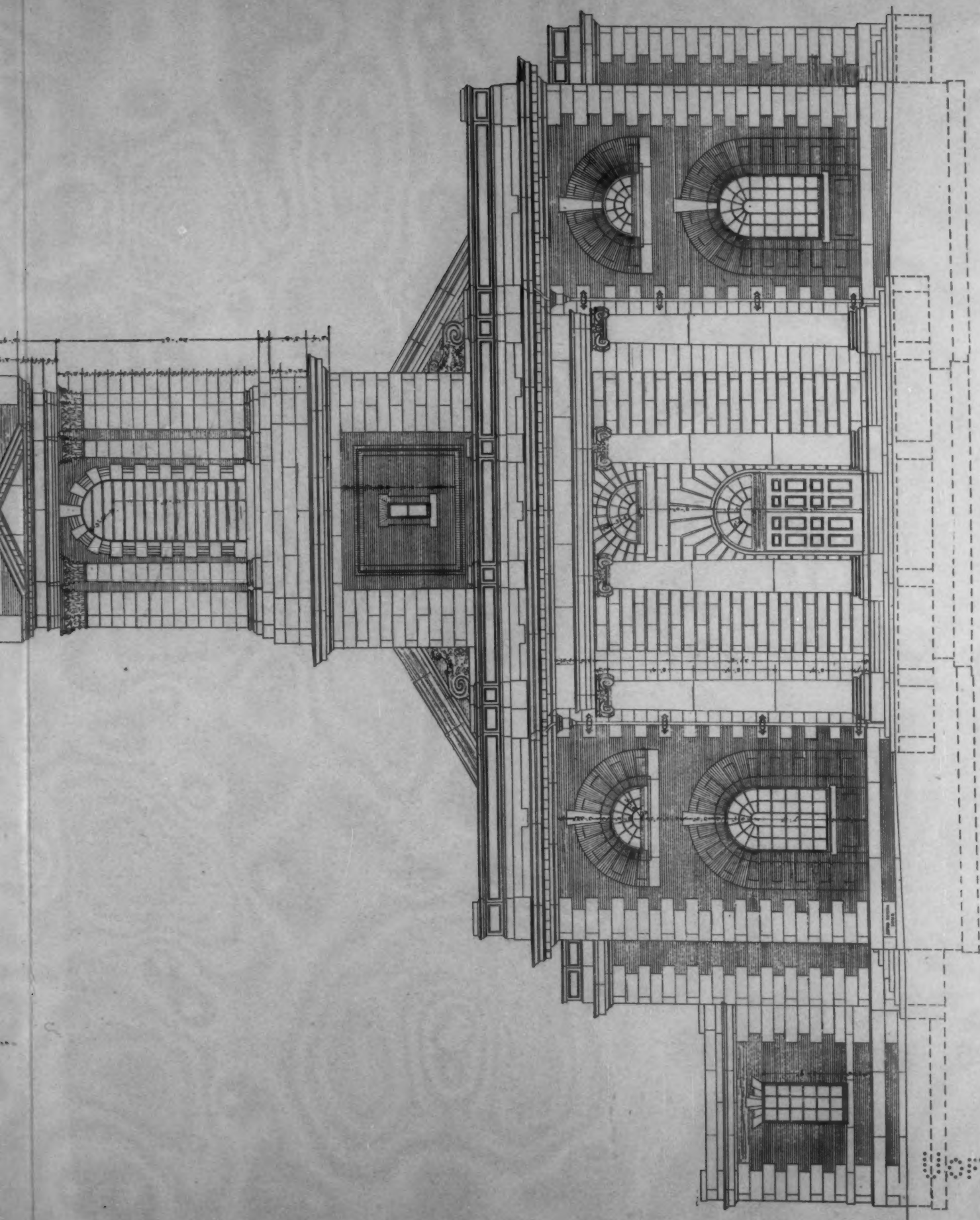
PLANS, ROCHESTER ATHLETIC CLUB, ROCHESTER, N. Y.
LEON STERN AND BRADDOCK & HILLMAN, ASSOCIATE ARCHITECTS.



DESIGN FOR A CHURCH FOR A
SHEPLEY, RUTAN & COOLIDGE,



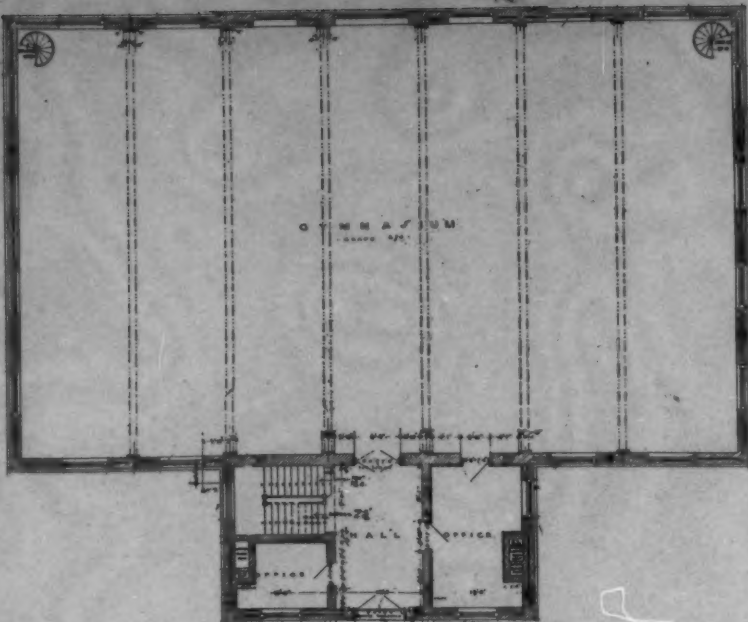




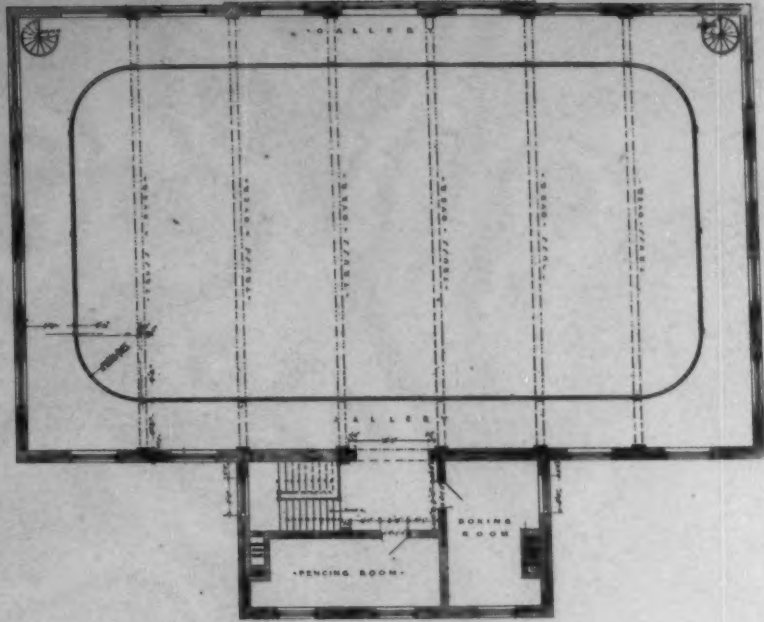
DESIGN FOR A CHURCH FOR A BOSTON SUBURB.

SHEPLEY, RUTAN & COOLIDGE, ARCHITECTS.

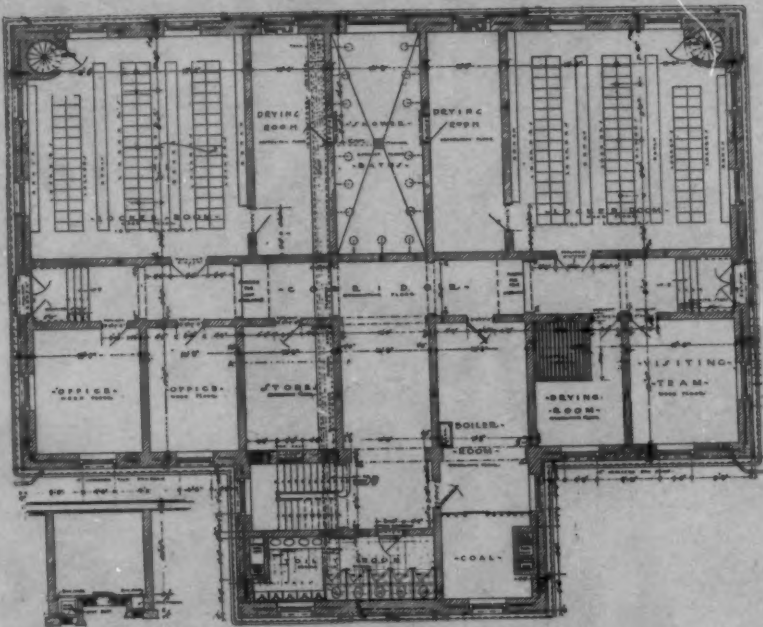
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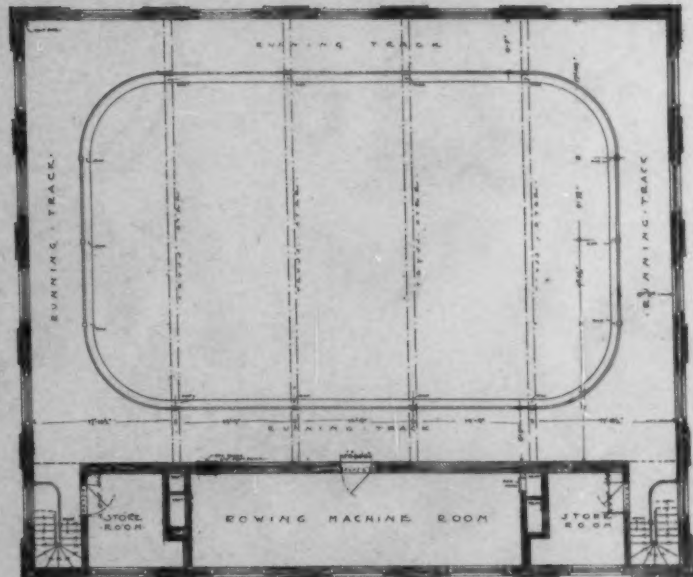
FIRST FLOOR PLAN, GROTON SCHOOL.



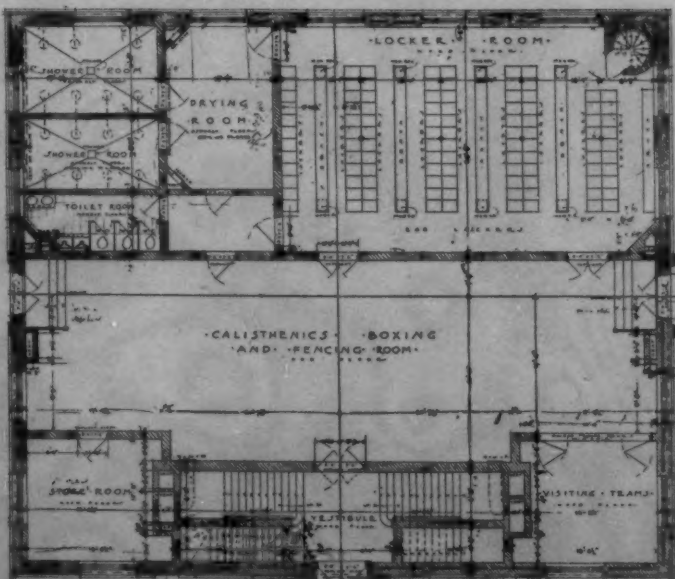
SECOND FLOOR PLAN, GROTON SCHOOL.



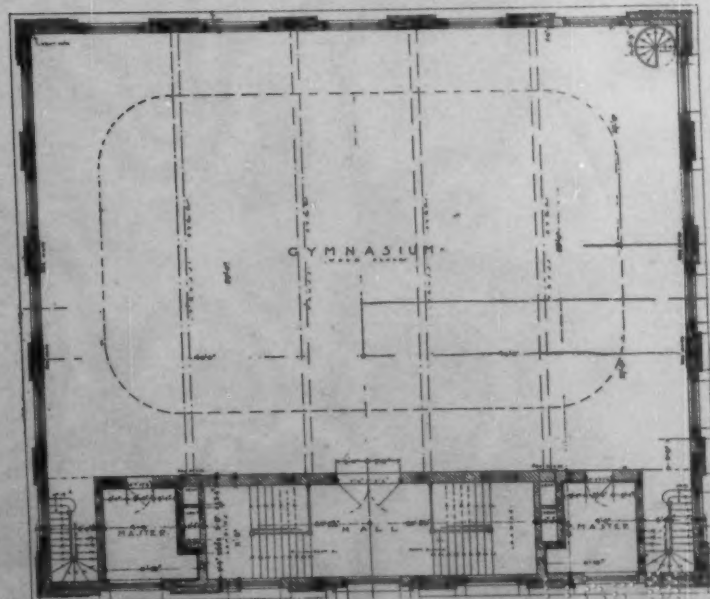
BASEMENT PLAN, GROTON SCHOOL.



GALLERY FLOOR PLAN, PHILLIPS ACADEMY.



FIRST FLOOR PLAN, PHILLIPS ACADEMY.



SECOND FLOOR PLAN, PHILLIPS ACADEMY.

PLANS, GYMNASIUMS, AT GROTON SCHOOL, GROTON, MASS., AND PHILLIPS ACADEMY, ANDOVER, MASS.

PEABODY & STEARNS ARCHITECTS.

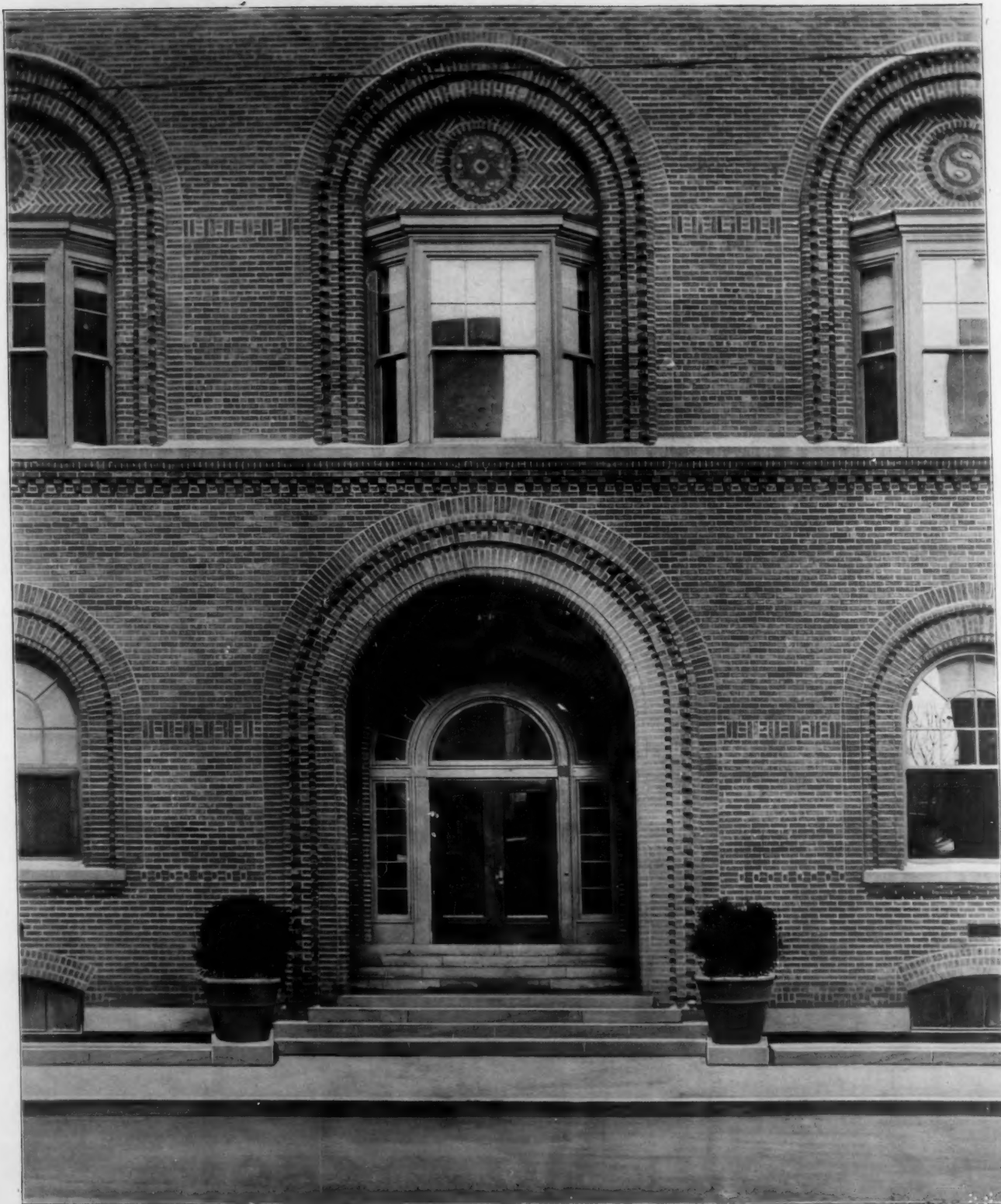
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GYMNASIUM, PHILLIPS ACADEMY, ANDOVER, MASS.
PEABODY & STEARNS, ARCHITECTS.

THE BRICKBUILDER,
MAY,
1903.

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DETAIL OF FAÇADE, THE ROCHESTER ATHLETIC CLUB, ROCHESTER, N. Y.
LEON STERN AND BRAGDON & HILLMAN, ASSOCIATE ARCHITECTS.

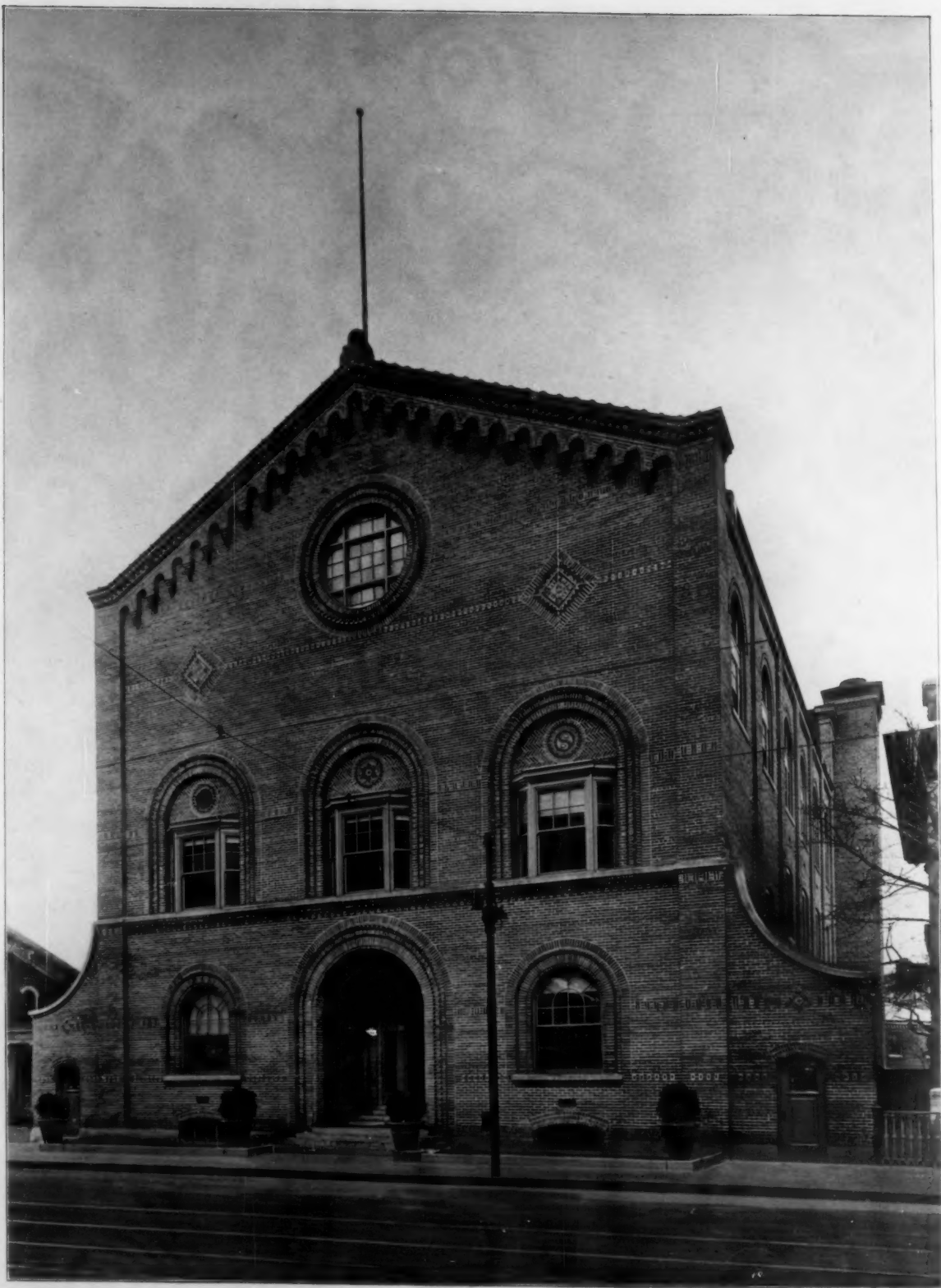
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MORGAN PARK GYMNASIUM, UNIVERSITY OF CHICAGO, CHICAGO, ILL.
Dwight H. Perkins, Architect.

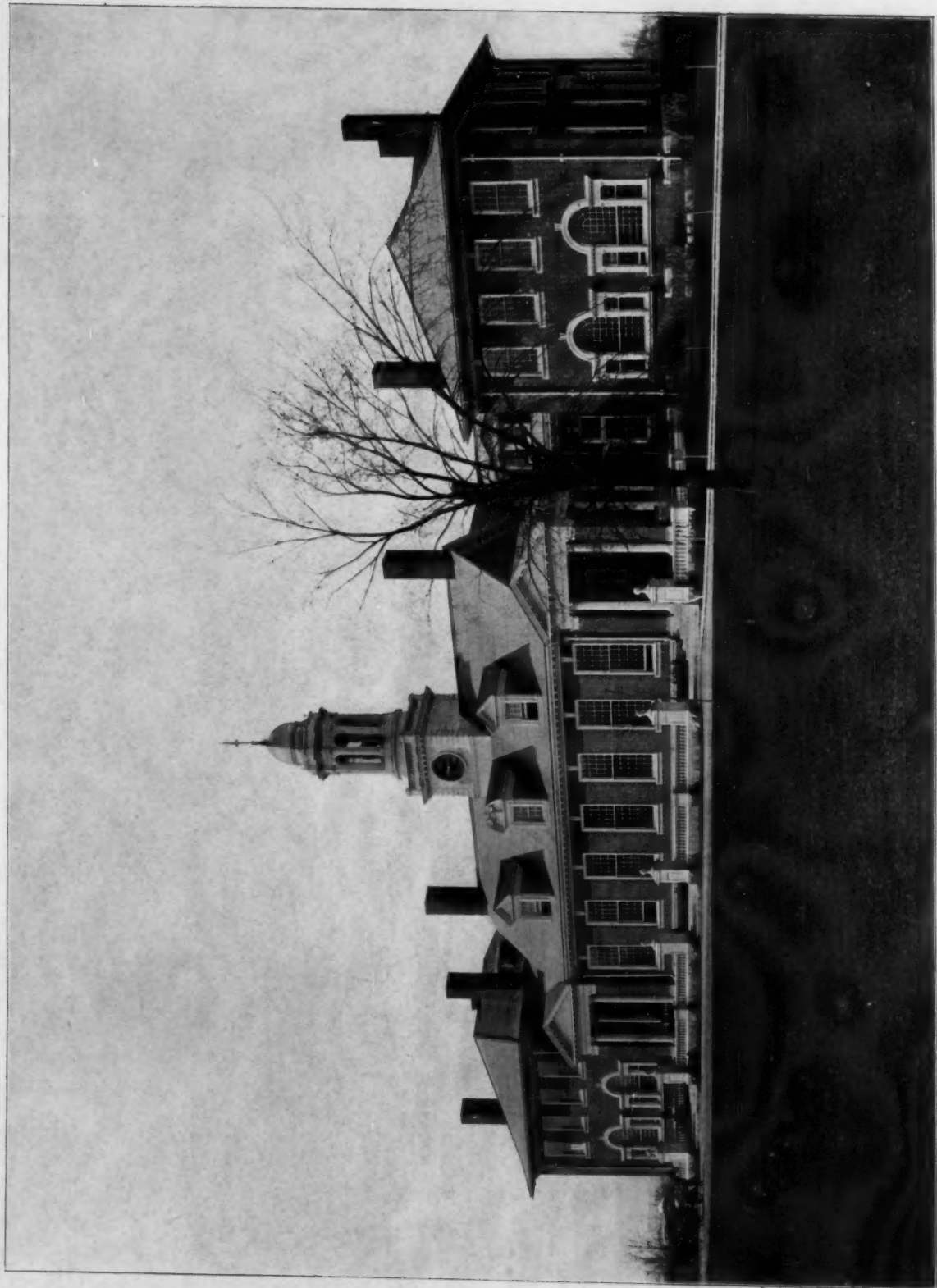
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THE ROCHESTER ATHLETIC CLUB, ROCHESTER, N. Y.
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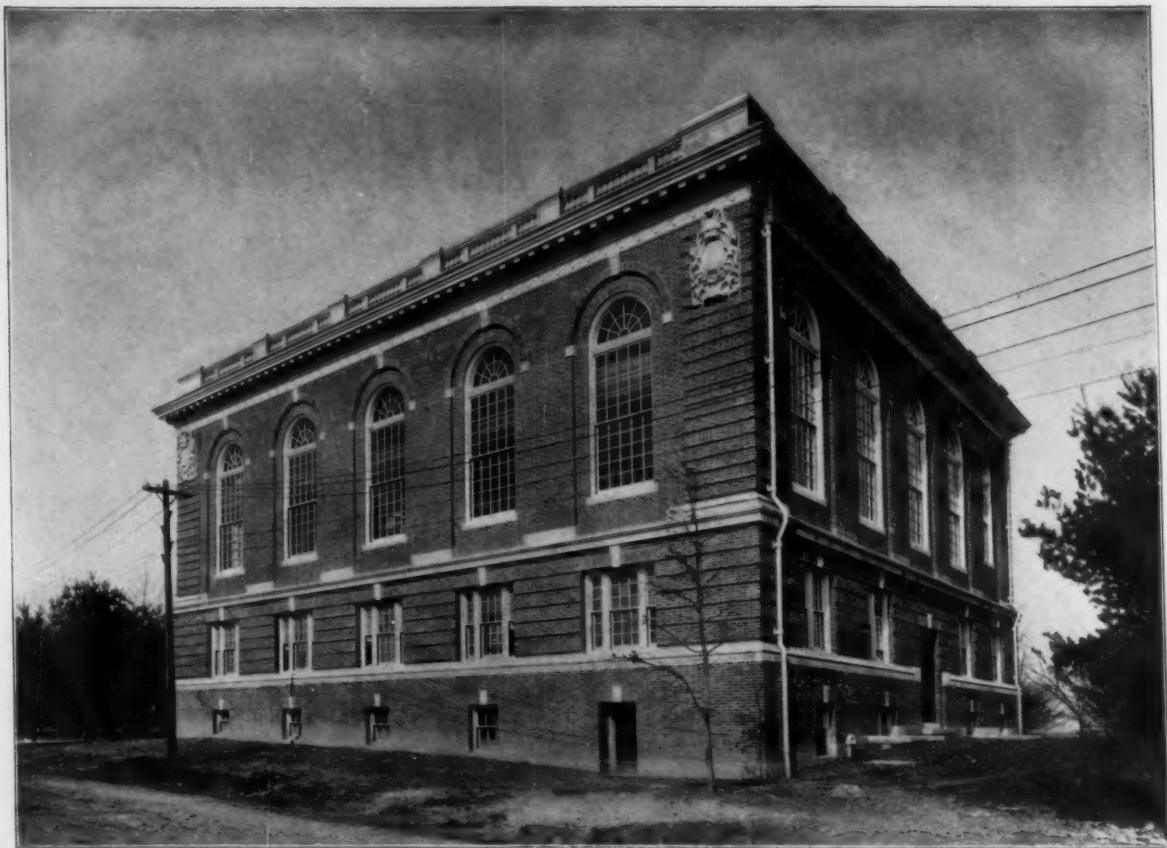
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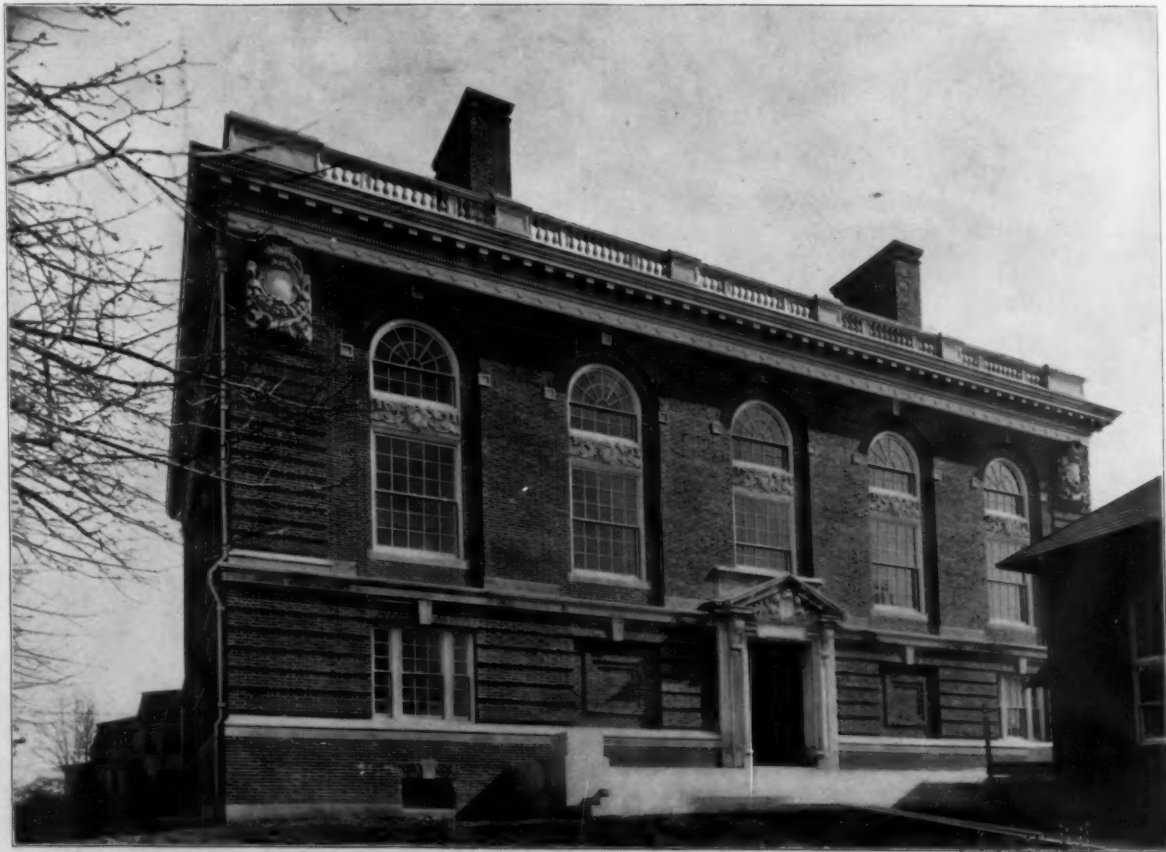
SCHOOL BUILDING, GROTON SCHOOL, GROTON, MASS.
PEABODY & STEARNS, ARCHITECTS.

THE BRICKBUILDER,
MAY,
1903.

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REAR ELEVATION.



FRONT ELEVATION.

GYMNASIUM, GROTON SCHOOL, GROTON, MASS.
PEABODY & STEARNS, ARCHITECTS.

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